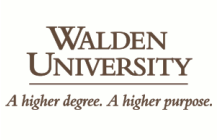

2017

Relationship Between Loan Product, Loan Amount, and Foreclosure After the Subprime Lending Crisis

Vonetta Allen
Walden University

Walden University

College of Management and Technology

This is to certify that the doctoral study by

Vonetta Allen

has been found to be complete and satisfactory in all respects,
and that any and all revisions required by
the review committee have been made.

Review Committee
Dr. William Stokes, Committee Chairperson, Doctor of Business Administration Faculty

Dr. Cheryl Lentz, Committee Member, Doctor of Business Administration Faculty

Dr. Roger Mayer, University Reviewer, Doctor of Business Administration Faculty

Chief Academic Officer
Eric Riedel, Ph.D.

Walden University
2017

Abstract

Relationship Between Loan Product, Loan Amount, and Foreclosure After the Subprime Lending Crisis

by

Vonetta C. Allen

MBA, Webster University, 2008

BBA, Savannah State University, 2003

Doctoral Study Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Business Administration

Walden University

October 2017

Abstract

Following the collapse of property values and an increasing rate of default on high-risk mortgages, the United States experienced a subprime lending crisis that led to massive financial losses for holders of mortgage-backed securities. The purpose of this correlational study was to examine if loan product and loan amount predict the likelihood of loan foreclosure. The theoretical framework grounding the study was Minsky's financial instability hypothesis, which describes the basis of capitalism as economic expansionism followed by financial crises. The population consisted of 473 loan cases from archival data of the Atlanta Sixth Federal Reserve District in Georgia. The method used to collect the data was a probabilistic simple random sample taken from the archival data. The use of binary logistic regression resulted in a finding that the variables of loan product and loan amount significantly predicted the likelihood of loan foreclosure, $\chi^2(4) = 10.65$, $p = .031$, Nagelkerke $R^2 = .09$. The Nagelkerke R^2 value indicated that the model explained 9% of the variability in foreclosure. The findings specifically showed that Federal Housing Authority and Veterans Administration loan products were significantly more likely than conventional loans to cause losses for mortgage lenders. The implications for positive social change include increased stakeholder knowledge of various factors that can contribute to foreclosure and sustainment of community value with fewer homeowners losing their home in foreclosure.

Relationship Between Loan Product, Loan Amount, and Foreclosure After the Subprime Lending Crisis

by

Vonetta C. Allen

MBA, Webster University, 2008

BBA, Savannah State University, 2003

Doctoral Study Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Business Administration

Walden University

October 2017

Dedication

I dedicate this doctoral study to my beautiful children, Marlon, Cierra, Tiara, Taylor, and Justin. You all gave me the motivation, strength, and the drive to finish. I also dedicate this study to my rock and my support, Carlos, who uplifts and encourages me daily. To my "big sister", Pattie Mitchell, who molded and shaped me into the woman I am today. Finally, I dedicate this journey to my late father, Willie Jones and my mother, Jacqueline. My existence and many accomplishments would not be possible without you. I love you all very much.

Acknowledgments

First and foremost, I thank God for giving me the courage to start this journey and the strength to finish. Through God all things are truly possible! I give thanks and appreciation to my good friend, Brent Ingram, for encouraging me to pursue my master's degree and later challenging me to tackle this doctoral degree. You believed in me and helped me believe in myself. To my residency buddy and friend, Dr. Toccara Lee, thank you for reassuring me and guiding me to the end. I thank all of my family and friends who motivated, supported, and pushed me to the finish line.

I would like to give a special thanks to my chair, Dr. William Stokes, for his guidance, patience, and support throughout this journey. I would also like to thank my committee members, Dr. Cheryl Lentz and Dr. Roger Mayer, for their thorough reviews and timely critiques. Thank you, Dr. Reginald Taylor, for the proficiency and timeliness of your courtesy reviews. Finally, I want to acknowledge my editor, Toni Williams, and my statistician, David Kovaz, Jessica Bell and Chris Reich for their support. I am grateful to each of you for the roles you played in helping me complete this study.

Table of Contents

List of Tables

Section 1: Foundation of the Study

The cause of the subprime lending crisis that began in 2007 was a rush among lenders to offer risky home loans to consumers (Donadelli, 2015). The rise of private-label, mortgage-backed securities led to the proliferation of risky investments (Horton, 2013). Prior to the crisis, which was a period in which private lenders approved loans with additional risk, federal lending regulations were inadequate (Razaki, Koprowski, & Manizha, 2013). Many subprime loan consumers were obtaining high-rate mortgages, despite an analysis of credit histories and financial positions demonstrating their inability to fulfill such financial obligations (Razaki et al., 2013).

Following new policies enacted after the 2007 subprime lending crisis, researchers and economists remained engaged in understanding the crisis, its effects, and the relationships among various factors (Avery & Brevoort, 2015; Boysen-Hogrefe, Jannsen, & Meier, 2015; Dong & Hansz, 2016; Fox, 2015; Hall, Crowder, & Spring, 2015; Huang & Yeh, 2015; Mukerji, Saeed, & Tan, 2015; Spahr & Sunderman, 2014). Researchers' sustained interest in the crisis has occurred partly because, as Fox (2015) explained, the effects of the crisis would continue for many years, especially in regions with high rates of negative home equity (Raymond, 2016). To create policies to prevent similar financial crises in the future, an understanding of factors surrounding mortgage default, such as correlations between loan product, loan amount, and foreclosure (Pajarskas & Jočienė, 2015) was necessary. That was the focus of this study.

Background of the Problem

After the recession of 2007–2009 ended in the United States, many housing markets throughout the country remain in periods of recovery extending well into the century's second decade (Raymond, 2016). With regard to the lending crisis, research exists on the effect of U.S. federal government policies (Avery & Brevoort, 2015), differences in strengths and recoveries of major and normal mortgage crises (Boysen-Hogrefe et al., 2015), and the influence of household financial decisions (Mukerji et al., 2015). Despite the range of existing research, the subprime lending crisis remains a highly relevant topic of study with significant knowledge gaps. One gap concerns the correlation between loan product, loan amount, and foreclosure in areas with high percentages of negative equity homes.

Although the economic ripples from the housing bubble occurred throughout the United States, the focus of this study was on mortgage holders in Clayton, Henry, Rockdale, Fulton, and Spalding counties of the Sixth Federal Reserve District in Atlanta, Georgia. This district had the highest rate of negative equity in the United States (Alm, Buschman, & Sjoquist, 2014; Georgia Watch, 2010; Raymond, 2016). In 2014, 23% of the homes in the Sixth District had negative equity (Zillow, 2016). The results of this study may contribute to developing and implementing home lending policies that are more effective and provide lenders with clearer insight into the relationship between loan product, loan amount, and foreclosure in regions with high rates of negative home equity.

The subprime lending crisis led to significant losses, including bankruptcies in the banking industry (Lu & Whidbee, 2013). An indicator of dire economic situations for

both consumers and lenders was high foreclosure rates in many states, including Georgia. Consequently, leaders of banks, mortgage lending companies, and other lending institutions may have an interest in understanding factors that affect the riskiness of home loans, such as loan product and loan amount. The findings from the study include new information on the relationship between loan product, loan amount, and foreclosure that lenders might use to improve home lending policies.

Problem Statement

The root of the subprime lending crisis was poor economic and regulatory decisions made by lenders (Lu & Whidbee, 2013). As of 2014, the average U.S. foreclosure rate was one out of every 1,199 homes (Lersch, Sellers, & Cromwell, 2015). The general business problem is that mortgage lenders lose profits from high rates of consumer foreclosure. The specific business problem is that some mortgage lenders do not know if loan product and loan amount predict the likelihood of loan foreclosure.

Purpose Statement

The purpose of this quantitative correlational study was to examine if loan product and loan amount predict the likelihood of loan foreclosure. The predictor variables were loan product and loan amount. The criterion variable was foreclosure. The population consisted of data records of mortgage holders in Clayton, Henry, Rockdale, Fulton, and Spalding counties of the Atlanta Sixth Federal Reserve District in Georgia between 2013 and 2016. Lenders may use results from this study to improve their understanding of factors associated with increased foreclosure risks. Implications for positive social change include improved stakeholder understanding of the

correlations, if any, between loan product, loan amount, and foreclosure that may be useful in developing and implementing less risky lending policies.

Nature of the Study

The focus of this quantitative correlational study was to examine the degree of statistical significance of the correlation, if any, between the predictor variables, loan product and loan amount, and a criterion variable, foreclosure, in Clayton, Henry, Rockdale, Fulton, and Spalding counties of the Atlanta Sixth Federal Reserve District in Georgia. The study involved investigating if loan product and loan amount significantly predicted the likelihood of loan foreclosure. Thus, I chose a quantitative method for the study. Hoare and Hoe (2013) noted the necessity of applying quantitative methods to study empirical data and assess hypotheses, relationships, and frequencies of observations. Because the goal of this research was to investigate whether statistically significant relationships exist between loan product, loan amount, and foreclosure, a quantitative method met the needs of this study (Howell, 2013). Qualitative and mixed method approaches involve an in-depth exploration of themes surrounding phenomena (Palinkas et al., 2015). However, because the purpose of this research was to examine quantifiable concepts statistically rather than to explore the in-depth and subjective experiences of individual participants, qualitative and mixed method approaches were not suitable.

Researchers use correlation designs to examine relationships between variables and test hypotheses (Howell, 2013). The correlation design was the best choice because the study involved testing hypotheses. A true experimental design involves applying

random assignment of data to an archival data set; thus, a correlational design was the best approach. The outcome of this design was an observation of possible relationships between loan product, loan amount, and foreclosure.

Research Question

The research question and hypotheses for the study were as follows:

RQ: Do loan product and loan amount predict the likelihood of loan foreclosure?

H_0: Loan product and loan amount do not predict the likelihood of loan foreclosure.

H_a: Loan product and loan amount do predict the likelihood of loan foreclosure.

Theoretical Framework

The basis of the theoretical framework for the study was Minsky's (1986) financial instability hypothesis (FIH). Minsky noted that financial crises are integral to capitalist economies because periods of excessive economic prosperity result in increasingly reckless behaviors by borrowers and lenders. Financial bubbles form as a result, which later burst and lead to economic crises such as the 2007–2009 recession (Minsky, 2015). According to the theory, capitalist economies tend to move from periods of stability to periods of instability, which is often the result of insufficient or poorly enforced government policies (Minsky, 1986). In this study, the insufficient policies included poorly enforced home loan lending regulations and the reckless behavior of lenders approving risky home loans. The specific focus of this study was the predictive

effect of loan product and loan amount, the predictor variables, on the criterion variable, which was the likelihood of foreclosure.

According to Minsky (1986), the FIH is a form of market failure, summarized as follows: success leads to excess, which results in crisis. Successful markets generally lead to excessive lending by banks in the form of high-risk home loans to poorly qualified borrowers (Minsky, 1986). Over time, a crisis develops when the borrowers who agreed to pay such loans can no longer afford the mortgage payments (Minsky, 2015). As a result, borrowers default on home loans, which results in foreclosure, and mortgage lenders experience significant financial loss.

The larger the loan a lender grants, the more significant the risk for default, foreclosure, and losses (Caverzasi, 2014). Thus, investment decisions create revenue streams as well as streams of financial commitments from borrowers. As long as borrowers fulfill their commitments, the economy remains stable. However, when borrowers enter foreclosure, financial crises can occur (Caverzasi, 2014), which is precisely the chain of events that began when the housing market crashed in 2007–2008. In the wake of the recession, weak housing markets led to large geographic pockets of homes with negative equity. Thus, Minsky's (1986) FIH provides a theoretical lens through which to explore possible correlations among home loan product, loan amount, and foreclosure.

Definition of Terms

Great Recession: The Great Recession refers to a period of economic downturn in global markets related to the financial crisis of 2007–2008 (Peicuti, 2014).

Housing crisis: A housing crisis refers to an economic condition in which an increased demand exists for new and existing housing met through a corresponding increase in borrowed funds and increasing home values at a higher-than-average rate that leads to risky debt arrangements (Aßmann, Boysen-Hogrefe, & Jannsen, 2013).

Mortgage default: Mortgages in default are over 90 days past due (Anyamele, 2015).

Mortgage delinquency: Mortgages are generally delinquent after nonpayment for at least 30 days. Delinquency is the stage that occurs prior to default (Anyamele, 2015). For the purpose of this study, a loan was delinquent when it was between 30 and 89 days past due.

Mortgage foreclosure: Mortgage foreclosure refers to the process of a lender repossessing a home when a mortgage borrower misses a monthly payment for a certain period, usually 3 months (Zhu & Pace, 2015).

Mortgage lenders: Mortgage lenders are institutions within the financial sector with a focus on brokering, counseling, and providing financial assistance to potential homeowners (Khan, 2014).

Predatory lending: Predatory lending describes the deceptive practices of creditors, brokers, or home improvement contractors that involve taking unfair advantage of a borrower's lack of knowledge (Agarwal, Amromin, Ben-David, Chomsisengphet, & Evanoff, 2013).

Securitization: Securitization describes the process of grouping bank assests, such as mortgages, into marketable securities and transferring the securities into bankruptcy-remote organizational entities that finance purchases through issuing securities.

Subprime lending: Subprime lending refers to mortgage-backed financing for risky borrowers denied access to prime loans (Bhardwaj & Sengupta, 2012).

Assumptions, Limitations, and Delimitations

Assumptions

Assumptions refer to aspects of research or occurrences the researcher believes to be true but that lack particular proof (Nkwake & Morrow, 2016). Assumptions are important in research because assumptions provide a basis for influencing and developing theories. One assumption about the population of borrowers within the archival data was that the population would represent similar demographic areas throughout the United States. Homeowners in Georgia include yearlong residents, as well as vacation homeowners who visit on a seasonal basis. Another assumption was that the data would be an accurate reflection of the actual foreclosure rates for the time represented. The third assumption was that the proper sale of the loan for those who applied and qualified for prime, Federal Housing Authority (FHA), or subprime loans occurred in good faith and was free of lending biases such as socioeconomic or racial prejudices (Courchane, Darolia, & Zorn, 2014).

Limitations

Limitations are issues or circumstances that could curtail the progress of a particular project or research question investigation (Krupa, 2014). Limitations may be

of a legal nature or influenced by the sociocultural views associated with the subject in question (Krupa, 2014). One limitation for this study was that uncontrolled changes in unemployment rates and unemployment accounted for missed loan payments. The geographic region that was the source of the aggregate data was five counties in the state of Georgia.

Delimitations

A study's delimitations refer to the study's boundaries (Salvador, 2016). Important considerations include understanding what to do, reasons for choosing one aspect over the other, methodology procedures chosen, and the reasons for choosing a certain subject. A delimitation for this study was the use of archival data from five counties in Atlanta's Sixth Federal District in the state of Georgia. Foreclosure data from the sample included loan type and excluded interest rate, borrower demographic information, and other economic factors, such as employment rates, that could be factors in foreclosure. Mortgages included in the data set were only those that borrowers obtained for single-family homes through mortgage lenders, which excluded any commercial loans and investment properties used for the sole purpose of collecting rent. Finally, the selected time frame of analysis, 2013 to 2016, was another delimiting factor.

Significance of the Study

The U.S. housing market functions as a major part of the economy. Many lenders may reduce losses through a more complete understanding of the riskiness of different loan types. Results from this study contribute to the field of business, as leaders of financial entities may be able to create loan packages that are viable, efficacious, and

more realistic for clients. When lenders ensure borrowers can repay the loans, positive lending practices encourage loan packages that may prevent future foreclosures. Such actions can contribute to more effective business practices among lenders, which can free borrowers from unaffordable loans and contractual traps, such as using financial incentives that encourage lenders to steer borrowers into more costly loans that keep borrowers in undesirable financial situations. To create policies to prevent similar financial crises in the future, factors surrounding mortgage default, such as correlations between loan product, loan amounts, and foreclosure rates, must be understood (Pajarskas & Jočienė, 2015). Lenders with improved knowledge and lending practices may make better decisions to guide them toward less risky loan generation, thus improving profits and sustainability.

The ramifications of positive lending decisions can discourage the sale of unsustainable mortgages to a secondary market and potentially provide lenders with insight into which loan types present the most significant risks based on different factors, thus contributing to positive social change. Foreclosure creates significant social and economic crises that ripple throughout society, including low property values and poor neighborhood quality (Kim, Wilmarth, & Choi, 2016). A better understanding of foreclosure risk factors, such as loan product and mortgage amount, might help consumers and lenders make better borrowing and lending decisions.

A Review of the Professional and Academic Literature

The bursting of the housing bubble preceded the Great Recession of 2007, quickly followed by the exponential increase of foreclosures that reached levels not seen since the

Great Depression in the 1930s (Peicuti, 2014). The bursting of the housing bubble triggered a Great Recession that undermined the global economy (Iqbal & Vitner, 2013). The effects of mortgage defaults in the subprime market spread quickly from banks to other areas of the U.S. economy, such as corporate bonds (Krainer & Laderman, 2013) and pension funds (Schwartz, 2012). A lack of sufficient U.S. government regulation led investors to make risky bets on high-risk securities, which resulted in a recession (Casu, Clare, Sarkisyan, & Thomas, 2013). The high-risk securities lost value when borrowers no longer made payments against the loans that composed the security, which subsequently lost more value as the failure rates grew. Understanding the factors, consequences, and responses to the Great Recession is important to appreciate the state of the housing market during that period.

The purpose of this literature review was to explore mortgage loan types and lending practices related to the ripple effects of the 2007-2009 economic recession continuing into the next decade throughout parts of the United States. The research included a general context about borrowers and lenders relevant to the exploration and analysis of the relationships between loan products, loan amounts, and foreclosure. The concepts within the literature align through a comparison of contemporaneous peer-reviewed research and past theoretical constructs for understanding the mortgage industry on a macroeconomic level and market challenges affecting lenders. The literature review may reveal areas for continued research for future researchers. The synthesis of related literature provides a detailed discussion of Minsky's FIH, as well as the four major types of mortgages available to homeowners: (a) prime, (b) subprime, (c) FHA, and (d) U.S.

Department of Veterans Affairs (VA). The major economic factors forming the context of the subprime lending crisis are (a) U.S. governmental policies and regulations, (b) securitization and investment vehicles, (c) fraudulent banking practices, (d) housing prices, (e) unemployment and the economy, and (f) predatory lending.

Literature Review Search Strategy

This review of the literature includes peer-reviewed journal articles from online databases. I accessed the documents through Google Scholar and the Walden University library, where a multitude of other databases contained articles for review. Articles pertinent to this study originated from the following databases: Academic OneFile, EBSCO, ProQuest, Science Direct, SpringerLink, and Taylor & Francis. Multiple Boolean searches yielded relevant research using the following keywords: *crisis, default, financial, foreclosure, Great Recession, housing crisis, interest rates, lending, loan types, mortgage foreclosure, predatory lending, real estate, mortgage companies, prime, subprime mortgage,* and *financial instability hypothesis*. The number of sources from the combined search results for these keywords was 376,421. Articles pertained to general inquiries regarding the housing crisis, foreclosure, mortgage loan types, and the Great Recession. Of the 136 references, 85% were less than 5 years old from the anticipated Chief Academic Officer approval date in 2017, and 85% of the references were peer reviewed. The preliminary search results for the selected keywords and the number of articles for each searched term appear in Table 1. The total number and percentage of sources published within the past 5 years and peer reviewed documents used in this study appear in Table 2.

Table 1

Preliminary Search Results for Selected Terms

Search term	Number of articles
Great Recession	166,481
Housing crisis	124,783
Predatory lending	50,332
Subprime mortgage	161,810
Financial instability hypothesis	1,291
Loan types	30,452
Subprime lending crisis	3,081
Total	376,421

Table 2

Types of Sources

Reference type	No. of sources	% of total
Scholarly sources published after 2013	115	84.5
Scholarly sources that have been peer reviewed	115	84.5

Financial Instability Hypothesis

According to Minsky (1986), the basis of capitalism is economic expansionism, followed by financial crises. Minsky did not believe the economic system was self-sustaining and equilibrium-seeking. Rather, Minsky (1992) posited that inflations and deflations in capitalist economies had the potential to occur rapidly and cause economic damage. Minsky (1992) posited that increases in indebtedness generally accompany periods of economic growth because lenders feel confident that borrowers will be able to repay loans in a generally successful economic climate. Charles (2015) explained such a climate results in rising debt ratios that balloon to a point where debt begins to threaten vulnerable economic units.

As borrowers begin to fail to uphold their financial agreements, leaders of banks must sharply increase interest rates to compensate. Deflation risks occur when lenders must sell off assets to pay back debts. Charles (2015) noted that without outside intervention, recessions could develop into severe depressions, such as the one that occurred in 1929. As White (2015) explained, Minsky believed that debt-based finance and intermediaries such as banks were inherently volatile. Thus, the basis of Minsky's (1992) FIH is the assumption that capitalist financial systems do not naturally move toward states of equilibrium; rather, they tend to grow until they explode, which creates a financial crisis (White, 2015). In the wake of such crises, problems such as high foreclosure rates and negative home equity can occur.

Minsky (1986) theorized three different categories of risk positions of banks: hedge, speculative, and Ponzi. Hedge finances are low risk with low leverage, speculative finances involve slightly higher rates of risk and leverage than hedge, and Ponzi finances represent the riskiest category with the highest leverage. Subprime mortgages are an example of a Ponzi system. To prevent financial crises, Minsky (1992) hypothesized two conditions were necessary: big government and an alert lender of last resort. Big government describes federal stabilizers and discretionary policies to stabilize economic demands. The role of the latter, as Chan, Sharygin, Been, and Haughwout (2013) described, is to (a) provide liquidity so borrowers do not have to liquidate assets, (b) regulate the financial systems to prevent financial instability, and (c) restructure existing debts to reduce the burden placed on borrowers. President Obama's $787 billion

stimulus package was the government's attempt to act as a lender of last resort, though critics disparaged it as merely a collective failure (Epstein, 2013).

Minsky's (1986) FIH is evident in the economic cycles of the capitalist United States, especially in the subprime lending crisis, the consequent housing bubble, and the economic crisis of foreclosure and negative home equity that followed. The cycles of borrowing and lending and of economic prosperity and crisis are evident throughout U.S. economic history. Minsky's suggestion that capitalist economies do not demonstrate a natural homeostasis that gently pushes them toward stabilization, but rather such economies are in constant oscillation between economic prosperity and economic depression, strongly aligned with this study. Periods of economic prosperity precariously rely upon increasing levels of indebtedness and reliance on future money (Minsky, 1992) that may never materialize due to borrower defaults and the resulting spikes in interest rates for all borrowers.

The economic instability generated from poor government regulation and the resulting financial bubble surfaced during the explosive growth of subprime mortgages generated in 2005 (Tan & Cheong, 2014). This period of economic growth included increased subprime lending by banks and other lenders and increased indebtedness among mortgage borrowers. The economic bubble created by unregulated subprime lending burst following 2007, indicated by an almost 350% increase in foreclosures in the United States between 2007 and 2010 (Houle, 2014; Tan & Cheong, 2014). After 2009, the housing market began to recover slowly, and 2015 was the strongest year for new and existing home sales since the housing bubble burst (U.S. Census Bureau, 2016). Thus,

the housing economy in 2015 demonstrated recovery in many areas. However, regional pockets throughout the United States, such as counties in the Sixth Federal District, continue to experience high rates of negative equity that have hampered economic recovery (Goodman, Zhu, & George, 2014). According to Minsky's (1992) FIH, consumers should view any signs of economic recovery with caution, as the market's tendency toward oscillation over homeostasis may result in movement toward another economic bubble.

Palley (2010) noted that a Minskyian view of the subprime mortgage crisis includes a focus on the instability of financial markets, while new Marxist, Keynesian, and social structure of accumulation (SSA) interpretations include a deeper focus on the root causes of economic crises. For example, the new Marxist approach indicates the crisis was the result of stagnation to which capitalist economies historically return (Jefferies, 2015). The SSA approach involves viewing the crisis as a contradiction within neoliberal regimes of capital accumulation and growth resulting from over 30 years of stagnant wages and income inequality (Palley, 2010). On the other hand, the Keynesian view focuses on an aggregate demand from structural changes resulting from neoliberalism.

A post-Keynesian view of the subprime mortgage crisis includes an examination of several potential root causes, such as failures of international markets, poor financial regulation, securitization errors in the structuring of low quality assets, shifts toward financialization, and poorly calculated monetary policies (Koutsobinas, 2010). In addition, post-Keynesian observers consider the role of stakeholder expectations in the

financial crisis (Lavoie, 2016). For example, Koutsobinas (2010) contended that stakeholders can factor many so-called psychological expectations into the collapse of the housing market, such as (a) expectations for housing appreciation, (b) attempts to minimize losses by major financial institutions, (c) the too-big-to-fail myth, and (d) liquidity preferences. Koutsobina argued that the prevalence of the effects of role expectations in the subprime mortgage crisis was so profound that the period would have been more appropriately labeled a *Keynes moment*.

Another theory considered for this study was SSA (Kotz, 2013; Lippit, 2014). According to the SSA theory, sequences of relatively stable institutional structures occur in capitalist societies that can last for several decades each. Each of these structures is an SSA. These SSAs represent coherent sets of institutions that promote capitalist accumulations for significant periods until institutional contradictions intensify, which leads to long periods of structural crises (Kotz, 2013; Lippit, 2014). Each of the SSA crises last until new SSAs replace them (Keaney, 2014). Although the SSA theory can help explain how such institutional and structural crises arise, the crises examined in some of the SSA literature do not necessarily reflect severe structural crises (Kotz, 2013). The subprime mortgage crisis was a severe crisis; thus, SSA theory was not the most suitable theory for the current study.

Finally, Marxist theorists claimed that the subprime mortgage crisis was the result of fundamental flaws in capitalism (Jefferies, 2015). According to Marxist theory, overinvestment creates financial bubbles, and managerial decisions based on the best financial interests of managers, rather than stakeholders, can emphasize share price over

value. As a result, failures of financial gatekeepers lead to financial collapse (Hausman & Johnson, 2014). Although a Marxist interpretation of the subprime mortgage crisis includes acknowledgement of the financial bubbles inherent to capitalist economies, the theorists do not consider the constant fluctuations or cycles of economies.

Palley (2010) contended that scholars must view any substantial level of analysis and policy recommendation of the 2007-2009 crisis using an inferable *Marxist-SSA-Structural Keynesian* lens. The cycle of economic recessions, Palley contended, will accompany any rework of the financial sector that fails to bridge the gap between workers' earnings and economic expansion. Nevertheless, Palley recognized that Minsky's (1992) FIH epitomized the financial crisis driven by mortgage lenders and speculators' exuberance. Koutsobinas's (2010) post-Keynesian perspective or the Marxist-SSA-structural Keynesian lens concerns a much larger dimension or macro level of the economy. Though Koutsobinas's post-Keynesian perspective or the Marxist-SSA-structural include valid arguments, they may not be adequate to the level of focus or analysis for this study. The specific focus of the study was the risk of different loan types through each phase of economic instability surrounding the crisis; thus, Minsky's (1992) FIH was a more appropriate theoretical lens for this examination.

Loan Products

Four major loan types exist for borrowers and are contingent upon income; one loan type requires current or past military service: conventional, subprime, FHA, and VA. Borrowers may obtain conventional home loans, termed *prime loans*, if they (a) qualify with sufficiently low debt-to-income ratios, and (b) possess required levels of down

payments and credit scores (Hendrickson & Nichols, 2011). Subprime loans are suitable for relatively lower wage earners with higher debt-to-income ratios than prime loan holders and nearly no money available for a down payment (Bhardwaj & Sengupta, 2012). The FHA is a provider of federally guaranteed home loans for low-income borrowers with credit scores below the threshold for prime loans and spends a larger portion of income on debt than prime loan holders. Finally, the VA has special pricing and criteria for home loans for veterans of the U.S. armed services. Primarily, researchers have focused on subprime loans because of the high failure rates before and during the subprime lending crisis.

Factors predicting delinquency, such as economic conditions, loan characteristics, and borrower characteristics, exist across all loan types. Zacks and Zacks (2015) examined data from 2004 to 2009 and established that borrower income and loan type were primary determinants of borrowers' ability to pay mortgages. Thus, the health of the national economy was an indicator of borrowers' ability to fulfill mortgage obligations. Servicer compensation and the high costs of renegotiating loans in default, accounting standards, and liens junior to the problematic loan impeded loan modifications (McCoy, 2013). Officials within the Obama administration attempted to stem two of the factors affecting loans through the Home Affordable Modification Plan of 2009: loan characteristics and economic conditions (Beckett, 2013; McCoy, 2013). The president's proposal to alleviate the harmful effects of the burst of the housing bubble benefited all stakeholders and the U.S. economy (Beckett, 2013). In addition, the proposal represented a forceful and effective response to the subprime lending crisis.

Congress also intervened with the subprime lending crisis to try to correct the problem by introducing the Home Affordable Modification Plan.

The Home Affordable Modification Plan may result in a significant reduction in vacant foreclosed homes (Beckett, 2013). Schwartz (2012) examined the state of the housing sector 5 years after its collapse in 2007 and the most significant policies implemented by the Obama administration. After investigating President Obama's response measures to the foreclosure crisis, the subsequent policies affecting the sector, and some of the weaknesses in the housing programs, Schwartz noted the executive branch could not address the housing crisis effectively because of Republican control in the House of Representatives. Federal congressional and executive branch actions were not in sufficient balance to promote a safe and positive transition through one of the greatest economic downturns in American history. Programs such as the Home Affordable Modification Plan addressed lending and borrowing concerns prior to foreclosure, but did little to prevent a loan from going into default. Discovering which loan types are likely to end in default may influence future program success and sound fiscal practices.

Subprime mortgages. Leaders of financial institutions developed subprime loans to add diversity to loan portfolios and to extend credit to borrowers who failed to qualify for prime loans that were the traditional avenues of financing (Bhardwaj & Sengupta, 2012). Rising home values during the subprime lending crisis lessened the risk to lenders (Foote & Willen, 2016), as did a robust market in which investors easily sold foreclosed properties before incurring any appreciable losses. The attractiveness of a

subprime loan for borrowers who did not qualify for a conventional home loan was the temporary credit accommodation (Bhardwaj & Sengupta, 2012), the potential for accumulation of equity within the home, and development of a positive credit history. Regardless of the fiscally difficult loan terms, the attraction of home ownership enticed many people into financial situations from which they would be unable to recover.

During changes in FHA programs, subprime lending filled the needs of potential borrowers (Courchane et al., 2014). Researchers investigated whether lenders coerced FHA, prime, and subprime borrowers into home ownership through financially unfeasible avenues. Lack of awareness regarding the mortgage process made borrowers less likely to search for the best mortgage rate in the market, and they may not have received sufficient information regarding options. Since 2009, the benefits of optimal mortgages, including range of expansion, tax advantages, and a decrease in the value of transactions incurred when purchasing homes, may continue to offer positive alternatives (Cocco, 2013). Consumer complaints have continued about the lack of clear foreclosure laws and procedures. According to many borrowers, the large number of foreclosures is the result of a lack of proper communication by lenders regarding the foreclosure process.

A strong correlation exists between subprime mortgages and economic crises such as foreclosures (Guesmi, Kaabia, & Kazi, 2013). In 2007, when subprime mortgages became popular among financial institutions, the mortgage crisis expanded and led to other problems, such as the housing crisis (Guesmi et al., 2013). The mortgage default crisis started in 2005 and by the end of 2008, the rate of default had reached about 5.2% (Mayer, Pence, & Sherlund, 2013). An increase in default cases resulted in an increase of

foreclosure cases across the country, especially for subprime mortgages in which borrowers defaulted at higher rates than holders of all other mortgage types because lenders of this type of mortgage usually targeted borrowers with poor credit histories (Mayer et al., 2013). Many terms and conditions in subprime mortgages caused borrower confusion, which led to an increase in default cases (Mayer et al., 2013). Contributing to the default rates were high prepayment penalties that reduced borrowers' ability to repay loans in full and discouraged the sale of properties.

The subprime market failure occurred for various reasons, including an increase in the risk characteristics of subprime loans as opposed to past practices, which were more conservative. A major cause of the subprime lending crisis was the ineffective risk reduction methods of financial institutions (Pajarskas & Jočienė, 2015). A majority of lenders failed to conduct an analysis of credit risks and investigate borrowers' ability to repay loans. However, the success of the subprime mortgage market in early 2007, brought about by lower interest rates, mitigated the number of losses and default cases among subprime loans (Makarov & Plantin, 2013).

Another cause of the subprime lending crisis was easy admittance to the loan market. For example, insufficient documentation in the subprime loan market led to increased default rates (Pajarskas & Jočienė, 2015). Most financial institution leaders reduced admittance conditions to obtain high yields and profits (Nelson & Katzenstein, 2014), which encouraged borrowers to make loan commitments without providing adequate proof of a capability to repay the loans. Lenders could prevent the economic

downturn that resulted from subprime lending by instituting tighter lending policies and reduced interest rates (Moulton, 2012).

The subprime housing crisis affected the economy by changing individual and institutional principles regarding credit (Moulton, 2012). People borrowed money through home loans that were excessive and beyond borrowers' means (Prohaska & Lichtenstein, 2014). Investors ignored standard risk versus reward practices and invested heavily in the mortgage sector to pursue high returns. Among lessons learned from the subprime lending crisis were that irresponsible lending and the failure to monitor and analyze borrowers' ability to repay loans led to major financial losses (Prohaska & Lichtenstein, 2014). The risk of having too many subprime loans in a portfolio became the greatest risk such lenders assumed. If default was to occur, a model of lender expectations included increased home prices as a reduction in risk (Moulton, 2014). The model indicated subprime lending was a way for lenders to alleviate default risks if home prices increased steadily or aggressively. The critical decline in prices undermined lenders' ability to calculate favorable risk-to-reward ratios, which harmed institutions and borrowers.

Subprime mortgages comprised the majority of note defaults and caused a dramatic increase in the default rate (Pajarskas & Jočienė, 2015). As a result, securitization developed as a way to minimize mortgage risks and improve efficiency of the housing market. In addition, the aim is to reduce transaction expenses and ensure flexibility in financial operations. The role of securitization with subprime loans contributed to the subprime loan problems in the housing market, such as expedited

approvals, approvals without proper financial history, and predatory lending (Peicuti, 2013). Securitization increased defaults by about 20% because of the reduced quality of credit assessments and increased focus on quantity, not quality, of mortgages obtained (Peicuti, 2013). Securitization weakened incentives for thoroughly assessing customers, and many high-risk borrowers gained access to mortgages. Apart from poor screening of borrowers, securitization led to a housing crisis by increasing the complexity of mortgage products, which made the process difficult and confusing for borrowers to analyze financial risks effectively (Peicuti, 2013). The ability for financial institutions to package high-risk, subprime loans into attractive market-based securities enticed the sales of mortgages to people who were not creditworthy.

Prime mortgages. Private financial institutions typically provide conventional home loans to well-qualified borrowers who demonstrate fiscal acuity and low risk (McCoy, 2013). The other term for conventional loans, prime loans, is a reference to a lending rate close to the prime lending rate set forth by the U.S. Treasury. In 2009, 3% of prime loans were in foreclosure, 15.1% of subprime loans were in foreclosure, 3.2% of FHA loans were in foreclosure, and 2.2% of VA loans were in foreclosure (U.S. Census Bureau, 2012). Credit score analysis of prime loans showed that the home mortgage lending market became risk averse between 2005 and 2008, where high-risk lending decreased by half as the crisis began to affect the global economy (Immergluck, 2011). Several factors affected this trend, including the freezing and contraction of global credit markets and the continuous decline in home values across the United States and throughout the world (Immergluck, 2011).

Prime loans had many of the same negative effects from low loan-to-value ratios, low credit scores, and variable interest rates. Home prices played a major role in the housing crisis, in which the effect was much more evident for the subprime lending market (Bhardwaj & Sengupta, 2014). Borrowers with prime loans experienced escalated default rates and poor lending practices, but the percentages were substantially less than for borrowers in the subprime markets. The same was true for the commercial markets, where a substantial increase in delinquency occurred. In 2007, commercial loan delinquency rates were 1.94%, whereas 2010 rates increased to 10.84% (U.S. Census Bureau, 2012). Subprime markets received attention because of the rates, but the total dollar amounts for prime and commercial loan delinquencies may have been substantially higher, which indicates a need for researchers to explore loan products and loan amounts.

Federal Housing Administration (FHA) mortgages. Borrowers looking for a mortgage during the subprime lending crisis had several choices if prime lenders denied the prime loan application. One alternative was through the FHA, where borrowers receive loans secured by the federal government and not insured by a private mortgage insurance company. The FHA facilitates stabilization in housing markets on a national or regional scale and promotes federal policy through lender services of last resort for poorly qualified applicants (Bhardwaj & Sengupta, 2012; Quercia & Park, 2013). The FHA efforts include liberal loan terms, mortgage insurance, and the creation of nontraditional mortgages (Bhardwaj & Sengupta, 2012). FHA loans differ regarding the terms within the mortgage, such as interest rates, indemnification risks, and prepayment penalties (Smith, 2012). Smith investigated the relationship between subprime and FHA

loans and the disproportionate number of foreclosed properties, which highlighted the number of borrowers who received subprime loans but could have easily qualified for FHA loans. The findings from Smith's study supported economic indicators that showed more borrowers should choose to pursue FHA loans before going to the subprime market and possibly stimulating another housing crisis.

Subprime Lending

The United States experienced an economic recession because of the credit crisis associated with the subprime mortgage crisis (Thakor, 2015). Between 2006 and 2009, house prices decreased by approximately 32%, and some metropolitan areas, such as Detroit, experienced decreases greater than 50% (Schwartz, 2012). The effects of the housing bubble bursting included an increase in mortgage foreclosures (Beckett, 2013) and the failure of mortgage-backed securities (Prohaska & Lichtenstein, 2014). Multiple factors contributed to the Great Recession, and some of the effects continue to resonate in parts of the United States and the world. A discussion of these factors follows.

Liberal lending regulations led to risky investing that eventually caused the Great Recession; however, other aspects of local and global economies contributed to the crisis (Gangel, Seiler, & Collins, 2013; Guesmi et al., 2013). As much as the failure of the subprime mortgage market caused the subprime lending crisis, the economic recession that followed made the situation worse (Gangel et al., 2013; Guesmi et al., 2013). The Great Recession led to high unemployment rates in the United States (Rana & Shea, 2015). Consequently, people who could previously afford to service mortgages no longer had the income to make payments, especially middle-class workers. Unemployment

without a fiscal safety net led to the inability to pay mortgages (Agarwal, Deng, Luo, & Qian, 2016; Gyourko & Tracy, 2014; Schwartz, 2012; Shi & Riley, 2014; Tatom 2013). The rise of unemployment rates reflected the decline of the United States economy and global economies and consumers had to choose between paying their mortgages and meeting the essential survival needs of their families (Keene, Lynch, & Castro, 2014). Prior to the housing crisis, for consumers with medical expenses, medical bills became catastrophic financial obligations for families already struggling to pay their mortgages (Courchane et al., 2014). Borrowers, especially those with subprime mortgages, were in a financial maelstrom that negatively affected multiple aspects of their daily lives.

Also contributing to the mortgage failure rates was the exponential decrease in home values (Gyourko & Tracy, 2014; LoPucki, 2014; Shi & Riley, 2014). Investors used rising home prices as part of the lending equation to justify risky investments in subprime borrowers, which would have offset losses had home values remained level or showed limited increases (Bhardwaj & Sengupta, 2012). A contagion effect occurs when home values within a city or neighborhood begin to decline rapidly because of default (Kaabia & Abid, 2013); conditions that cause more defaults and are responses that fostered the recession (McCoy, 2013). Previously thought of as a stable investment, homes were no longer a source to build equity.

The deregulation of banking opened new and riskier markets for mortgages and mortgage-backed securities and made consumers vulnerable to fraudulent practices termed *predatory lending* (Dymski, Hernandez, & Mohanty, 2013; Mayer, Cava, & Baird, 2014). Prior to the collapse of the markets, securitization was a financial vehicle

used to diversify account holdings and open up credit (Casu et al., 2013); however, the rampant formation of these securities led to the demise of many financial institutions. During the recession, extensive losses within the banking industry led to closing high-risk product offerings, as well as conventional credit offerings (Gangel et al., 2013; Ramcharan, Verani, & Van den Heuvel, 2016). Business leaders were unable to secure loans for daily operations and forced to reduce labor costs and reduce the scale of business performed.

Many factors contributed to the Great Recession and the collapse of the housing industry in 2007, which had national and global ramifications (Casu et al., 2013). Although the foreclosure crisis began a year prior to the Great Recession, researchers disagree on the depth of its influence on the recession. For example, Tatom (2013) posited that the Great Recession was not the result of the mortgage foreclosure crisis, but a symptom of poor financial policies that led to the failure of many institutions dependent upon the housing industry. Despite differing theories on the origination of the Recession, a close link exists between the Great Recession and several striking trends in the United States, including increased foreclosures, a rising unemployment rate, and a rapid decline in housing prices (Rana & Shea, 2015). For example, practical models of mortgage nonpayment showed unemployment was a recognized risk factor that affected borrowers' leverage (Gyourko & Tracy, 2014). Rana and Shea (2015) found that foreclosures were not indicators of a depressed economy, but that shocks to foreclosures resulted from a substantial increase in the rate of unemployment and a significant decline in housing prices.

Predatory Lending

Predatory lending is the act of imposing unethical loan conditions on customers (Choplin & Stark, 2013). The practice of predatory lending was among the factors that contributed to the housing and subprime mortgage crisis, and contributed to the increase in the number of loan default cases by about one third (Agarwal et al., 2013). Lenders have access to private information regarding borrowers and borrowers' ability to repay loans and some lenders who engaged in predatory lending were aware of borrowers' inability to pay a mortgage (Agarwal et al., 2013). Loan terms imposed made future repayment of the loans impossible for borrowers. Lack of strategies to measure the effects of predatory lending on mortgage performance led to predatory lending (Agarwal et al., 2013).

State and federal interventions. Although the housing crisis highlighted the problems associated with predatory lending, the practice has been ongoing (Hendrickson & Nichols, 2011; Neuenschwander & Proffitt, 2014). Corrective efforts at the U.S. federal and state levels were an attempt to resolve the challenges caused by the practice. However, in 2004, the federal comptroller of currency preempted state laws to create a situation in which banks were not subject to state laws. The action undermined antipredatory efforts at the state level. Hendrickson and Nichols (2011) reported that bank performance improved significantly after the ruling by the comptroller, when a bank's charter governing operations and the lending laws changed in response to such rulings. Thus, federal regulation of the banking industry is more effective than state-level regulation, which indicates a need for federal regulation within the housing industry.

Mayer et al. (2014) noted that the present laws were ineffective in curbing predatory behavior among lenders. Future researchers could establish which changes will make the federal law more effective in reducing foreclosures.

Effect on subprime lending crisis. Lenders used predatory lending to make their offers attractive to a large number of borrowers (Mayer et al., 2014). The aim of predatory lending is to comply with requirements to make borrowers aware of the risks involved using complex mortgage terms (Mayer et al., 2014). Predatory lending is a major problem in the contemporary housing market and had a significant role in creating the subprime lending crisis in the country (Agarwal et al., 2013). The problem of predatory lending worsened because of numerous avenues that lenders used to issue subprime loans that undermined the national economy by selling products that people could not pay for because politicians were unable to define the problems and create appropriate legislation to prevent the problems (Bubb & Krishnamurthy, 2015). Elimination of the practice is likely because of concerted efforts from numerous parties. Industry stakeholders need to define the term and create appropriate policy measures and laws based on that definition (Bubb & Krishnamurthy, 2015).

Antipredatory laws. The subprime lending crisis revealed the need for effective antipredatory laws at the state level (Curtis, 2013). In addition, the crisis led to a discussion about whether the U.S. federal government made a mistake by limiting the influence of state antipredatory laws. Investors used the variations in state laws and the federal regulatory environment to determine the impact of the federal preemption of state antipredatory laws on the quality of mortgages originated by the preempted lenders.

Ding, Quercia, Reid, and White (2012) found that the default risk was high among lenders who received exemptions from strong state antipredatory laws. In particular, the observation was clear among refinance mortgages that had adjustable interest rates (Ding et al., 2012). The preemption of state mortgage lending regulations might result in a significant increase in mortgage default risks that undermine consumer protection (Ding et al., 2012).

A result of the subprime lending crisis was recognition of the need to carry out a comprehensive examination of the market to determine how a loan type can lead to mortgage fraud (Stowell, Barker-Cagwin, & Fellows, 2012). Distressed economic conditions in the country and rapid decline of housing values were an enabling environment for fraudulent lending (Stowell et al., 2012). Stowell et al. found that a need existed for greater vigilance within the housing market. Immergluck (2011) described solutions to foreclosures using programs that would reduce foreclosure rates and their influences in U.S. society. Investment in education for lenders and borrowers may stem the cases of fraud and fraudulent tactics within institutions.

Community Reinvestment Loans

Community reinvestment loans are a loan type lenders typically make available to low-income families and individuals. The purpose of this loan is to promote home ownership in economically distressed areas of a city, county, or state. One of the causes of the crisis was lending laws introduced to increase people's ability to own homes (Bourassa, Haurin, Hendershott, & Hoesli, 2013; Hendrickson & Nichols, 2011); however, no sufficient regulations existed to prevent financial institutions from offering

bad loans (Hendrickson & Nichols, 2011). One example of a lending law that increased mortgage risks was the Community Reinvestment Act of 1977. The purpose of this act was to ensure the institutions met the needs of community members, ensure equality when providing loans to community members, and force banks to give loans to low-income families that did not qualify for loans (Brescia, 2014). Another example of such lending laws is the Affordable Housing Act that led to lower mortgage standards, which also encouraged many low-income earners to obtain mortgages. A requirement in the Act was reduction of mortgage charges through subsidies that resulted in bank leaders introducing subprime mortgages and led to the subprime lending crisis.

High rates of unemployment affected low-income families who had fewer sources from which to pay mortgages compared to moderate-income households (Agarwal, Amromin, & Ben-David, 2014). Quercia, Pennington-Cross, and Yue (2012) focused on the mortgage default rate for low-income families, and investigated loan type, borrower demographics, and foreclosures. Borrowers who eventually defaulted on the home loan received mortgages without assessing their capability to pay on the note, because in the United States people associate owning a house with many financial advantages and better living standards (Quercia et al., 2012). To find a correlation between low-income borrowers and default rates, Quercia et al. (2012) used community reinvestment loan data and studied the chances of terminating mortgages by low-income families and moderate-income families. The study indicated that the default rate was higher among low-income households compared to moderate-income families and economic conditions affected low-income households extensively compared to moderate-income families (Quercia et

al., 2012). Community reinvestment loans have high default rates, but the factors and terms of the loans are similar to prime and subprime loans with parameters for determining if the borrower is not a good fit for a home loan.

Negative Effects of Terms Within a Mortgage

As discussed in the section on subprime mortgages, interest rates and credit scores affect borrowers' ability to pay a mortgage (Bhardwaj & Sengupta, 2012). The effects of these terms within a mortgage extend beyond the subprime market and have an adverse relationship within the other markets, such as prime and FHA. Prather, Lin, and Chu (2013) investigated absolute and relative credit risks in the mortgage market. The significance of Prather et al.'s study was to establish a correlation between choices, prices, and default rates of five mortgage products in both a normal and a stressed economy. Prather et al. found mortgage terms with default rates that were four times higher than conventional fixed-rate loans, and the default rates of some mortgage types rose to 30%. These findings indicated the need for consumers to study the credit risk of multiple mortgage products before making a purchase decision.

Adjustable rates. Because of legislation, leaders of lending institutions structured loans to make the loans affordable to possible homeowners, which established a mix of varying interest rates (Johnson & Li, 2014). The new products were nontraditional, and fixed-interest rate products were traditional and common practice during the past decades. Lin, Prather, Chu, and Tsay (2013) examined the risks involved in traditional and nontraditional mortgage products and found that the nontraditional mortgage products had higher default risks. Factors such as unwillingness to pay,

payment shock, and consumers' inability to pay were the causes of high risk (Lin et al., 2013). Regardless of low interest rates at the initial phases, all the risks transferred to borrowers. Borrowers unlikely to repay debts would favor an agreement with a huge prepayment fine, whereas borrowers who were more likely to prepay loans would prefer an agreement with a high interest rate and smaller prepayment fine (Bian & Yavas, 2013).

The monetary policy of the Federal Reserve may have contributed to the subprime lending crisis that followed the economic downturn in 2007 and the subsequent negative macroeconomic developments (Spencer & Huston, 2013). Spencer and Huston (2013) collected and analyzed empirical data and found that the data were in agreement with data from other researchers who believed that monetary policy between 2002 and 2005 stimulated the low federal funds rate. Moreover, Spencer and Huston's findings supported Alan Greenspan's and other economists' view that the links between the housing market, long-term rates, and short-term rates deteriorated between 2002 and 2005. Poor monetary policies served to encourage the development of the subprime lending crisis (Foote & Willen, 2016). Monetary policies such as bank rates can affect house valuations. The federal government established relationships between the housing market and monetary policies, such as the long-term and short-term federal rates. Spencer and Huston provided relevant information on how the performance of the housing market, particularly pricing, depends on the monetary policies in place during a specified period, which supports the claim that poor monetary policies in an economy contribute to a subprime lending crisis.

In an investigation of the relationship between lenders' and customers' choices, default rates, and house prices, Shi and Riley (2014) established that the default rate for adjustable-rate mortgage products was higher when compared to fixed-rate mortgage products. Various factors were the cause of this difference, and one factor was that borrowers who choose adjustable-rate loans were mostly high-risk borrowers (Shi & Riley, 2014). The popularity of the adjustable-rate product is a factor that contributed to the subprime loan crisis in 2005 (Foote & Willen, 2016). Economic conditions in a country are more likely to affect those who choose adjustable-rate loans, which in turn affect default rates. Default rates were high when many borrowers chose adjustable-rate mortgages, which increased the probability of payment shock when rates increased (Shi & Riley, 2014).

Credit risks. Borrower demographic characteristics, income, and fiscal history are factors that lenders considered during the lending process (Courchane, Kiefer, & Zorn, 2015). Borrowers' credit history gives a quantifiable understanding of the propensity to meet credit obligations on time. Furthermore, the cumulative credit score a borrower maintained is an acceptable indicator within the financial realm (Hyra, Squires, Renner, & Kirk, 2013). Because of credit risks, tools such as hybrid loans were instrumental in stretching income and accommodating diverse demographic trends for borrowers. The market replaced other types of products to retain the possibility of having credit.

Government Intervention

The Obama administration and the U.S. Congress attempted to stem the effects of the subprime lending crisis and prevent further damage through legislation and programs to help to those most affected by falling house prices (Bratt & Immergluck, 2015). The devastation of the subprime lending crisis on homeowners, banks, and the U.S. economy forced political leadership to intervene. Entire cities and regions of the country experienced the effects of the subprime lending crisis, and federal and state authorities attempted various approaches to prevent further damage to the economy. These legislative acts resulted from the need for political leadership to protect the American dream of home ownership (Avramenko & Boyd, 2013; LoPucki, 2014).

Legislation. A realization of ordinary Americans' economic hardship from the subprime mortgage crisis led to the formulation of the Mortgage Forgiveness Debt Relief Act of 2007 (Avramenko & Boyd, 2013) to reduce foreclosure and stem lenders' losses. Political leaders designed legislative measures to enable lenders to face the crisis without suffering severe economic hardship. However, some of the laws failed to work as expected because of constitutional issues. For example, the intentions of the Helping Families Save Their Homes Act (Homes Act) was to enable families to save their homes and reduce home foreclosures with easy mortgage loan modifications. Such laws might increase the appeal of nonpayment by extending the foreclosure procedure and the time borrowers who have stopped paying the mortgage can stay in their homes without rent debts (Demiroglu, Dudley, & James 2014). Demiroglu, Dudley, and James (2014)

examined the differences in state foreclosure laws and the effect of those laws on the cases of nonpayment in the residential mortgage market.

Lawsuits. Establishing national laws allows for a debate of state-level legislation to control for predatory borrowing and monetary institution foreclosure activities. The antipredatory laws were effective in reducing common broker practices and decreasing mortgage fraud, yet are expensive, are challenging to implement, and remain uncertain as to the efficacy (Baumer, Arnio, & Wolff, 2013). The subprime lending crisis led to a significant increase in lawsuits involving mortgages. The 1993 Nobelman v. American Savings Bank Supreme Court ruling prevented bankruptcy among Americans whose home values had fallen (LoPucki, 2014). LoPucki (2014) identified a precedent that would allow judges to accept the loan modification plans, which would serve the best interests of the U.S. economy, homeowners, and lenders. An examination of legislation and lawsuits may lead to solutions to problems and suggestions for regulatory measures and legislative acts.

Suggested Preventive Measures

In an effort to limit the severity of the damage, the U.S. federal government attempted to reduce the number of foreclosures, although progress was slow. Consequently, the focus of recent research rests on trying to determine the availability of effective models for understanding housing prices and housing market behavior (Burnside, Eichenbaum, & Rebelo, 2016). For example, Clark (2011) examined the efficacy of the utility model of housing market behavior and the hedonic price model to test if both were still relevant models in an increasingly uncertain housing market. The

housing sector may influence policy models in the future; however, Clark (2011) noted a need for new models that acknowledge changes in the housing market. One measure Clark proposed was for the market to change forecasting models with changes in economic conditions.

Policies. Researchers provide important insights regarding how policy makers can influence the housing market in a positive direction by formulating and implementing policies for managing foreclosures (Mayhew & Mayhew, 2014). In 2009, the federal government implemented various forms of federal assistance, including the Home Affordable Foreclosure Program and the popular Home Affordable Modification Program in many parts of the United States as forms of financial relief to millions of people with an impending foreclosure (Zhu, Janowiak, Ji, Karamon, & McManus, 2015; Mayhew & Mayhew, 2014). However, none of the supporters of these programs claimed the relief programs were adequate for the affected mortgage holders, particularly those from the most affected areas of the United States (Mayhew & Mayhew, 2014). Mayhew and Mayhew (2014) suggested that because of the housing foreclosures, authorities in Richmond, California, realized erosion was reducing the tax base of the economy. To prevent further erosion of the tax base, the authorities in Richmond recommended acquiring mortgages through the eminent domain process and modifying loans to make them affordable (Mayhew & Mayhew, 2014). Mayhew and Mayhew concluded that depending on the types of policies formulated and implemented, authorities tend to promulgate policies that will sustain the tax base, which potentially affects housing pricing and contributes to the subprime lending crisis.

The severity of the subprime lending crisis indicated the need to develop effective measures to ensure such challenges do not endanger the U.S. economy again (Foote & Willen, 2016). The crisis affected the servicing of mortgages in the industry overall, and dislocations and bankruptcies affected banks. However, the people harmed the most were homeowners who lost their homes because of the inability to pay the home loan. The failure of the banking institutions to implement due diligence served to encourage the lending crisis (Russell, Moulton, & Greenbaum, 2014). The responsible government authorities failed to regulate mortgages given prior to the subprime crisis. As a result, Russell et al. (2014) suggested that efforts to ensure the subprime lending crisis does not occur again must address several fundamental concerns: (a) The federal government should implement stringent regulatory oversight over the securities and lending industry; (b) the individuals and institutions responsible for creating the 2007-2009 subprime lending crisis should be accountable; (c) lenders need to overcome barriers to participation, such as stigma, lack of information, or incomprehensible information regarding the lending process, to decrease the impact of another crisis (Russell et al., 2014).

The subprime lending crisis prompted intense public debate regarding the nature of the housing market. Multiple views exist regarding the influence of the prevailing nature of the housing market on the crisis. Weak regulatory oversight played a substantive role in creating an enabling environment for the subprime lending crisis to occur (Jefferson, 2013). The financial industry leaders' unwillingness to participate restricted the programs in place from benefiting distressed homeowners, and bank

leaders' decisions to participate in loan restructuring were voluntary (Jefferson, 2013). The loss of trust in the financial industry and homeownership values challenged cultural and moral beliefs in the American dream of home ownership and the connection with banks (Jefferson, 2013). According to Madhavi (2014), the U.S. mortgage industry could improve by using callable covered bonds, strict and comprehensive underwriting, the application of recourse mortgages, and strict regulation.

Securitization. The goal of securitization is to safeguard against high-risk loans because such loans have a higher propensity for violation and lead to foreclosures. Casu et al. (2013) investigated whether lenders improved their performance by practicing securitization in an effort to assess credit risk. Scrutinizing banks was productive because the effort easily exposed credit risk (Casu et al., 2013). Despite such credit risk assessments, commercial banks continued to incur increased funding costs after funding structure improvements (Casu et al., 2013). Krainer and Laderman (2013) also investigated the valuation of securitized loans and found that loans offered through securitization were riskier because lenders securitize loans to spread risks to clients, which leads to lower loan performance. In the California mortgage market in 2000 private loan securitization contributed to poor loan performance by reducing the quality of mortgage standards. The regulation of loan prices and securitization led to lower mortgage charges in privately securitized loans (Krainer & Laderman, 2013).

Ethical lending and mortgage terms. Lenders have a responsibility to meet public objectives influenced by factors such as government regulations and funding (Moulton, 2012). Moulton (2012) examined a group of private mortgage lenders who

participated in public lending programs, and found many institutions continued to have riskier loans, although some did not. Avoidance of high risk-loans among private mortgage lenders was in response to regulatory oversight forcing the institutional leaders to act in publicly responsible ways. Different organizations had different publicly responsible behaviors because of varied strategic and institutionalized reactions to political authorities (Moulton, 2012). An increase in political authority will not necessarily make lenders acquire responsible behaviors. Reduced house prices and an increased number of subprime and alternative mortgage products caused the mortgage crisis, which contributed to the high rate of foreclosures and defaults (Cox, Brounen, & Neuteboom, 2014). Many people do not understand the loan terms described in mortgage notes; however, those who do understand the details of the terms make better decisions regarding purchasing homes with alternative loans (Cox et al., 2014). Chiang and Sa-Aadu (2013) proposed a financial training service and advice for potential borrowers to reduce errors associated with investments.

Transition and Summary

Between 2007 and 2009, millions of foreclosure cases occurred, and millions more homeowners were vulnerable to foreclosure (Geanokoplos, 2014). Subprime mortgage holders represented the greatest amount of default as a percentage compared to prime, FHA, and VA loan borrowers. Multiple factors contributed to the default rates of prime and subprime mortgages, primarily adjustable rates, early payment penalties, and credit scores (Geanokoplos, 2014).

The purpose of this review of the literature was to provide a comprehensive analysis and synthesis of the existing body of research on the subprime lending crisis, loan types, and predatory lending. The focus of Section 1 was to present a foundation to examine if loan product and loan amount predict the likelihood of loan foreclosure. The following section includes a description of the project with discussions of the research method, design, population and sample, data collection and analysis, and ethical research procedures.

Section 2: The Project

This section includes an overview of the research method, data collection, and data analysis procedures used in this study. First, this section includes a restatement of the problem and a discussion of the role of the researcher, followed by discussion of and a rationale for the selected research method and design. Additional sections include descriptions of the population and sample, ethical assurances, the data collection instrument, the data collection procedure, the proposed data analysis process, and issues of study validity. This section concludes with a brief summary and transition.

Purpose Statement

The purpose of this quantitative correlational study was to examine if loan product and loan amount predict the likelihood of loan foreclosure. The predictor variables were loan product and loan amount. The criterion variable was foreclosure. The population consisted of data records of mortgage holders in Clayton, Henry, Rockdale, Fulton, and Spalding counties of the Atlanta Sixth Federal Reserve District in Georgia, between 2013 and 2016. Lenders may use results from this study to improve their understanding of factors associated with increased foreclosure risks. Implications for positive social change include improved stakeholder understanding of the correlations among loan product, loan amount, and foreclosure, which may be useful to develop and implement less risky lending policies.

Role of the Researcher

The study involved collecting data from an archival source: CoreLogic. I had no active role or relationship with the agency and no knowledge of any of the mortgagors

associated with the housing loans. The research setting was the state of Georgia, where I am a licensed realtor. Because the study included only archival financial data, there were no human participants.

Researchers must adhere to basic ethical principles in conducting studies. The *Belmont Report* includes an outline of the ethical principles for research involving human participants (National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research, 1978). I maintained basic ethical principles when accessing and using the data. The data did not include any demographic information for the mortgagors; therefore, there was no risk of identification or privacy violation. A representative from CoreLogic provided a data sample. The topic of the research questions was the relationship, if any, among loan product, mortgage amount, and foreclosure.

Research Method and Design

Research Method

I used a quantitative method to examine the research question by collecting and analyzing mortgage data from CoreLogic, which was an archival source. Using quantitative methods is the most effective approach to a study that involves empirical data (Yilmaz, 2013). The goal of the research was to establish whether significant relationships exist between loan product, mortgage amount, and foreclosure, so a quantitative method was appropriate. A qualitative method is appropriate for assessing individuals' subjective experiences, but the quantitative method is the best choice for assessing relationships among several objectively measurable variables (Davies &

Hughes, 2014). A qualitative method was not suitable for this study because the problem and focus of the study did not involve the subjective experiences of individuals.

The use of a mixed method approach would have been unsuitable because adding a qualitative component to the study would not aid in addressing the research question. A mixed method approach is most appropriate when researchers need to conduct an initial exploratory analysis to determine what factors may influence the variables of interest. Researchers who use the quantitative method can objectively quantify and measure specific variables of interest and determine if significant relationships exist between the variables using statistical analysis (Howell, 2013; Yilmaz, 2013). Therefore, the quantitative method was the most appropriate approach to examine the relationships between the predictor variables, loan product and loan amount, and the criterion variable, foreclosure.

Research Design

To assess the research question, this study included a correlational design. A correlational design is appropriate when investigating relationships between predictor and criterion variables (Howell, 2013). The goal of the study was to investigate the relationships between loan product, mortgage amount, and foreclosure. Thus, a correlational design was the best approach for addressing the research question. Other types of quantitative designs that received consideration included the experimental design, but it was not suitable for the study. Experimental designs are appropriate when the goal of the research is to determine cause-and-effect relationships by manipulating and controlling the predictor variables (Howell, 2013; Tabachnick & Fidell, 2012). In an

experimental design, a researcher must be able to assign participants to conditions or groups randomly (Tabachnick & Fidell, 2012). I could not randomly assign group membership for this study. Thus, an experimental design was not suitable for this study.

Population and Sampling

The population consisted of data records dated between 2013 and 2016 for mortgage holders in Clayton, Henry, Rockdale, Fulton, and Spalding counties of the Atlanta Sixth Federal Reserve District in Georgia. Data collected for the target population were archival records concerning loan product, mortgage amount, and foreclosure. The source of the sampling frame was the CoreLogic Company. The sampling method was a probabilistic simple random sample taken from the sampling frame. Specifically, I used the select-cases command in the Statistical Packages for Social Science (SPSS) to draw cases from the sampling frame data set randomly. A simple random sample is an appropriate sampling method to obtain a sample representative of the population (Emerson, 2015; Howell, 2013; Uprichard, 2013).

Conducting a power analysis was necessary to determine the minimum sample size needed to conduct the analysis. Power refers to the ability to find a significant difference in a sample when a relationship exists in the population. Statistical power refers to the ability of a test to capture significance and is equivalent to one minus the probability of a Type II error, which refers to not finding significance in the sample when it occurs in the population (Field, 2013). A Type I error occurs when a researcher rejects a null hypothesis when it is true. Thus, a Type I error equates to finding significance in the sample when it does not exist within the larger population (a false positive). To

combat these errors, the study included the conventional values for power (.80), alpha level (.05), and effect size (medium). Unless the theory guiding a study dictates the use of other values, experts recommend applying these conventional values (Field, 2013; Kraemer & Blasey, 2015). With the predetermined parameters of alpha = .05, power = .80, and a medium effect size, I used G*Power 3.1.9.2 to calculate an appropriate sample for a logistic regression. Based on these calculations, a sample of 473 cases was sufficient for the analysis (Faul, Erdfelder, Buchner, & Lang, 2009).

Ethical Research

Because the data in this study were archival, fewer ethical requirements were necessary compared to research with human subjects. No informed consent was necessary, as the study included only archival data. No direct contact with any of the mortgagors occurred, and the data did not include personal information from any of the mortgagors. There were no incentives to participate in the study because data collection was already complete. Documentation outlining permission to use the archival data appears in Appendix A. Receiving Institutional Review Board (IRB) approval for the archival data was necessary (Walden IRB approval no. 06-08-17-0434302). For retention purposes, data used in the research will remain on my computer in a password-protected folder for 5 years to ensure the confidentiality of the data such that no one else has access to the loan data. Five years after the completion of the dissertation, I will delete the data.

Data Collection

Instrumentation

The study did not involve defined instruments. Data for the variables of interest came directly from loan records provided by CoreLogic. CoreLogic has access to loan information in the state of Georgia and provides this information for research purposes. I selected the information to measure variables directly in order to answer the research question. The creation of constructs was unnecessary, and concerns of validity did not pertain to the data.

Loan product. Loan product served as a predictor variable with measurement on a nominal scale. A nominal scale is a scale that involves discreet categories that do not follow any sequential order (Field, 2013). According to the data code sheet principles CoreLogic provided, the types of loan products specified in the data included community development authority, conventional, FHA, farmers home administration, leasehold mortgage, private party lender, U.S. Small Business Administration, VA, and wraparound mortgages. For the data analysis, loan product was dummy-coded with the largest loan category in the sample serving as the reference group.

Mortgage amount. Mortgage amount in U.S. dollars served as a predictor variable. Mortgage amount was a ratio-level variable. In a ratio level of measurement, the values of the variable are such that equal differences in intervals between values represent equal differences in values, and the values have a true zero point (Field, 2013). Specifically, mortgage amount was the total amount of the loan in U.S. dollars.

Foreclosure. Foreclosure served as the dichotomous criterion variable, with two levels: foreclosure and no foreclosure. For data analysis coding purposes, Pallant (2013) assigned the value of "0" to whichever response indicates a lack or absence of the characteristic of interest. Foreclosure was the characteristic of interest. Therefore, I assigned "0" to no foreclosure and "1" to foreclosure.

Data Collection Technique

Data consisted of archival data. Researchers collect archival data prior to a research study for varied purposes, and such data are available for researchers to use and analyze (Brakewood & Poldrack, 2013). Advantages to using archival data are the speed and efficiency of obtaining data already collected, the reduction of cost and burden on potential participants by maximizing the use of collected data, and the reduction of cost and burden on the researcher (Brakewood & Poldrack, 2013; Fecher, Friesike, & Hebing, 2015). Disadvantages to using archival data are the increased potential for breaches in participant confidentiality and the limitations to the populations, time periods, and variables that are available in the data (Brakewood & Poldrack, 2013).

The archival data came from a third party, CoreLogic, that had access to loan information in the state of Georgia. After providing the specific variables of the study, I received permission from an authorized individual in the organization to use the data. A representative of the organization obtained the data upon request and sent them as an Excel spreadsheet along with a codebook that described the variables within the data file. The advantage of using an external organization is that the data collection is already

complete. Thus, the study included data collected systematically by members of a financial organization rather than data collected using smaller scale sampling procedures.

Data Analysis

The research question and hypotheses for this study were as follows:

RQ: Do loan product and loan amount predict the likelihood of loan foreclosure?

H_0: Loan product and loan amount do not predict the likelihood of loan foreclosure.

H_a: Loan product and loan amount do predict the likelihood of loan foreclosure.

Binary logistic regression, as used in this study, is an appropriate statistical analysis when the goal of the research is to examine the relationships between multiple predictor variables and a single binary criterion variable (Field, 2013; Stevens, 2009). Researchers use binary logistic regression to predict an event with two possible outcomes based on a set of predictor variables (Tabachnick & Fidell, 2012), and researchers use logistic regression to determine the extent to which the likelihood of an outcome increases or decreases as the values of the predictor variables increase or decrease (Field, 2013). Therefore, binary logistic regression was appropriate for this study as I assessed the likelihood of predictor variables predicting loan foreclosure.

Other predictive analyses considered included multiple linear regression and discriminant analysis. Multiple linear regression is a statistical technique researchers use to predict values of an interval or ratio-level variable (Field, 2013; Stevens, 2009; Tabachnick & Fidell, 2012). Therefore, multiple linear regression was not appropriate

because the criterion variable investigated was not an interval or ratio-level variable. Finally, the use of discriminant analysis is appropriate when attempting to predict a categorical outcome based on multiple predictor variables, but may be less robust and carries more stringent assumptions than logistic regression (Field, 2013). Therefore, discriminant analysis was not appropriate for this study.

I screened the data for any missing values or outliers. Cases with missing values for the variables of interest (e.g., loan product, mortgage amount, or foreclosure) were not part of the study. Outliers underwent examination prior to analysis. Stevens (2009) noted that an outlier is a value greater than 3.29 standard deviations from the mean. Any observations of mortgage amount identified as outliers did not remain part of the study. Additionally, testing the assumptions of the statistical analysis helped ensure statistical conclusion validity. The three assumptions within logistic regression concern (a) sample size, (b) multicollinearity, and (c) outliers. Assessment strategies and any actions necessary if the data showed a gross violation of the assumptions remained part of the study.

Sample Size

The first assumption of binary logistic regression was that the sample size was sufficiently large to obtain statistically valid results. I ensured the satisfaction of this assumption by sampling no fewer than the minimum number of cases, as indicated by the power analysis. The power analysis indicated the requirement of a minimum of 473 cases.

Multicollinearity

Multicollinearity refers to the degree that predictor variables correlate with each other (Stevens, 2009). Binary logistic regression requires that the predictor variables do not correlate too highly (Menard, 2009; Stevens, 2009). Testing for multicollinearity involved using variance inflation factors. According to Menard (2009), variance inflation factor values greater than 10 indicate significant multicollinearity among the predictor variables. Removal of the appropriate predictor variables from the regression model occurs if there is an assumption violation.

Outliers

Binary logistic regression calculations function correctly if no outliers are present in the data (Tabachnick & Fidell, 2012). Stevens (2009) defined an outlier as a value greater than 3.29 standard deviations from the mean. Determining outliers of the mortgage amount variable occurred prior to analysis, followed by exclusion from analysis of any cases containing outliers.

Computation and tabulation of the binary logistic regression involved the following statistics: (a) beta, (b) standard error, (c) Wald value, (d) degrees of freedom, (e) *p* value, (f) odds ratio, and (g) 95% confidence interval for odds ratio. Beta is the raw regression coefficient calculated for each predictor variable (Tabachnick & Fidell, 2012). The standard error is a measure of the variability in the regression coefficient (Tabachnick & Fidell, 2012). The Wald value is the test statistic for the significance of the regression coefficient and follows a chi-square distribution (Field, 2013). The degrees of freedom refer to the number of values that are free to vary in the calculation of

the significance test (Field, 2013). The *p* value represents the probability of obtaining a coefficient as extreme as the observed coefficient if the true value in the population was zero (Field, 2013). The *p* value also helps interpret the significance of the results. If the *p* value is less than .05, the result is significant. The odds ratio represents the change in likelihood of the outcome coded as "1" for each one unit change in the predictor variable (Tabachnick & Fidell, 2012). Finally, the 95% confidence interval for the odds ratio is the confidence interval for the value of the odds ratio. The expectation was the confidence interval would contain the true value of the parameter in 95% of samples (Hoekstra, Morey, Rouder, & Wagenmakers, 2014). I used SPSS Version 24.0 (IBM Corp., 2016) as a tool for data analysis.

Study Validity

External validity refers to the ability to generalize results to the larger population. Because the data collected included mortgages from counties of the Atlanta Sixth Federal Reserve District in Georgia, which is the U.S. district with the highest rate of foreclosed homes in the country (Alm et al., 2014; Georgia Watch, 2010; Raymond, 2016), the sample served as an adequate representation of the population. By including at least 473 observations, the power of the analysis was high enough to find significance if it existed in the larger population.

Statistical conclusion validity refers to the extent that results of data analysis are accurate and valid. Strategies for mitigating threats to statistical conclusion validity consisted of ensuring that the sample size was sufficient to draw valid conclusions from the data analysis and that no major violations existed of the statistical assumptions for

binary logistic regression. Use of power analysis determined the minimum sample size required for the analysis, and testing the assumptions of binary logistic regression took place prior to analysis.

Transition and Summary

Section 2 included a discussion of the methodology of the study, the reasoning behind conducting a quantitative correlational design, the use of archival data and variables, and the reasoning behind conducting a binary logistic regression. The section also included details about the data collection and data analysis. Section 3 consists of the data analysis, results, and an interpretation of the findings.

Section 3: Application to Professional Practice and Implications for Change

The purpose of this quantitative correlational study was to examine if loan product and loan amount predict the likelihood of loan foreclosure. The predictor variables were loan product and loan amount. The criterion variable was foreclosure. Data analysis led to rejecting the null hypothesis and supporting the alternative hypothesis. Loan product and loan amount significantly predicted the likelihood of loan foreclosure.

Presentation of the Findings

This subsection includes a discussion on testing the assumptions, descriptive statistics, inferential statistics, and the findings as they relate to theory. Specifically, I tested the assumptions of sample size, multicollinearity, and outliers. The inferential statistical test conducted to address the research question was a binary logistic regression.

Tests of Assumptions

The study involved evaluating the assumptions of sample size, multicollinearity, and outliers. Ensuring a sufficient sample size involved randomly sampling 473 cases from the archival data obtained from CoreLogic. The random sampling involved using the select-cases procedure in SPSS. The initial data set obtained from CoreLogic contained 52,394 cases, and the evaluation of multicollinearity involved using variance inflation factors. Menard (2009) noted that variance inflation factor values greater than 10 indicate significant multicollinearity among predictor variables. All variance inflation factors were below 10 (see Table 3); therefore, the data met the assumption of multicollinearity.

Table 3

Variance Inflation Factor Values for Predictor Variables

Predictor	Variance inflation factors
Loan product (Reference: conventional)	
Federal Housing Authority	1.07
Private party lender	1.03
Veterans Administration	1.05
Loan amount	1.01

Evaluating outliers involved calculating the number of standard deviations each value for loan amount was from the mean. Stevens (2009) defined outliers as values more than 3.29 standard deviations from the mean. Nine values of loan amount were more than 3.29 standard deviations above the mean, and there were two values of "1" for loan amount. I excluded these cases from the analysis, which left a final of 462 cases included in the analysis.

Descriptive Statistics

There were 52,394 cases in the CoreLogic data set, with 473 cases randomly sampled from the data set for this study. Eliminating 11 cases due to outliers resulted in 462 cases for the analysis. Loan amounts ranged from $2,984 to $175,524,452 ($M$ = $1,212,634; SD = $11,965,553). Table 4 includes the descriptive statistics for loan product and foreclosure.

Table 4

Descriptive Statistics for Loan Product and Foreclosure

Variable	Frequency	%
Loan product		
Conventional	275	59.5
Federal Housing Authority	120	26.0
Private party lender	20	4.3
Veterans Administration	47	10.2
Foreclosure		
Not in foreclosure	447	96.8
Foreclosure	15	3.2

Inferential Results

The study included binary logistic regression to examine if loan product and loan amount predicted the likelihood of loan foreclosure. The predictor variables were loan product and loan amount. Data analysis involved dummy-coding loan product, with the largest loan category (conventional) serving as the reference group. The outcome variable was foreclosure. The null hypothesis was loan product and loan amount do not predict the likelihood of loan foreclosure. The alternative hypothesis was loan product and loan amount do predict the likelihood of loan foreclosure. The preliminary steps taken to assess the assumptions of sample size, multicollinearity, and outliers revealed no serious violations of the assumptions (see the Tests of Assumptions subsection above). The alpha level chosen to determine statistical significance was .05.

The binary logistic regression model was significant, $\chi^2(4) = 10.65$, $p = .031$, Nagelkerke $R^2 = .09$. The Nagelkerke R^2 value indicated that the model explained 9% of the variability in foreclosure. Because the binary logistic regression model was

significant, data analysis led to rejecting the null hypothesis and supporting the alternative hypothesis; therefore, loan product and loan amount significantly predicted the likelihood of loan foreclosure. Statistics for each binary logistic regression predictor are in Table 5. The dummy-coded loan product category of FHA was a significant positive predictor ($B = 1.71$, $p = .015$). The odds ratio for this predictor indicated that FHA loans were 5.52 times more likely to be in foreclosure than conventional loans. The dummy-coded loan product category of private party lender was not a predictor ($B = 1.55$, $p = .190$). The dummy-coded loan product category of VA was a significant positive predictor ($B = 2.12$, $p = .007$). The odds ratio for this predictor indicated that VA loans were 8.31 times more likely to be in foreclosure than conventional loans. Loan amount was not a significant predictor ($B = 0.00$, $p = .892$).

Table 5

Binary Logistic Regression Predicting Foreclosure

							95% CI odds ratio	
Predictor	*B*	*SE*	Wald	*df*	Sig.	Odds ratio	Lower	Upper
Loan product (Reference: conventional)								
Federal Housing Authority	1.71	0.70	5.94	1	.015	5.52	1.40	21.83
Private party lender	1.55	1.18	1.71	1	.190	4.69	0.46	47.41
Veterans Administration	2.12	0.78	7.32	1	.007	8.31	1.79	38.50
Loan amount	0.00	0.00	0.02	1	.892	1.00	1.00	1.00

Note. $\chi^2(4) = 10.65$, $p = .031$, Nagelkerke $R^2 = .09$.

In summary, the binary logistic regression conducted to answer the research question was significant, which indicated that loan product and loan amount significantly predicted the likelihood of loan foreclosure. Specifically, FHA loans (compared to

conventional) and VA loans (compared to conventional) were significant positive predictors, meaning that FHA and VA loans were significantly more likely to be in foreclosure than conventional loans.

Applications to Professional Practice

The driving force behind business operations is creating value for stakeholders. In cases where entities face an expansion of business to create such value, it is tempting to assume greater risk in expectation of greater rewards. However, as evidenced by the subprime mortgage crisis, such is not always the case. Particularly in situations where mortgage-backed securities are the majority of an organization's investment portfolio, the variables with regard to those mortgages could mean the difference between success and disaster.

The application of the current research to professional practice is to provide a litmus test for the likelihood of loss associated with an individual loan, a mortgage package, or a portfolio based largely upon mortgage-backed securities. Understanding the link between the particular mortgage type and its inherent risk allows business leaders to make decisions based upon their acceptance or aversion to risk. Organizations whose leaders are risk-accepting can have portfolios with large percentages of FHA or VA loans, with an awareness of the increased risk of loss associated with such investments. The leaders of those risk-averse organizations looking for slow and steady growth can avoid such packages and opt for safer investments involving conventional loans or, in some cases, avoid mortgage-backed securities entirely.

Findings from this study generally supported Minsky's (1986) financial instability hypothesis, which posits that successful markets often lead to excessive lending by banks in the form of high-risk home loans to poorly qualified borrowers. Over time, a crisis develops when the borrowers who agreed to pay such loans can no longer afford the mortgage payments (Minsky, 2015). As a result, borrowers default on home loans, which results in foreclosure, and mortgage lenders experience significant financial loss. Findings from this study revealed that FHA and VA loans were significantly more likely to go into foreclosure than conventional loans. Thus, the high default rate among borrowers of VA and FHA loans was reflective of the financial instability hypothesis. Borrowers of VA and FHA loans may be more likely to take on mortgages and loan payments they cannot keep up with than are borrowers of conventional loans.

The elevated foreclosure risks associated with FHA loans demonstrated in this study supported findings from previous research. FHA loans promote lending to poorly qualified applicants (Bhardwaj & Sengupta, 2012; Quercia & Park, 2013) through liberal loan terms, mortgage insurance, and nontraditional mortgages (Bhardwaj & Sengupta, 2012). However, the riskiness of FHA loans indicated in this study revealed that such loans might be more risky than previously estimated. For example, in 2009, 3% of prime loans were in foreclosure, 15.1% of subprime loans were in foreclosure, 3.2% of FHA loans were in foreclosure, and 2.2% of VA loans were in foreclosure (U.S. Census Bureau, 2012). Thus, census data from 2009 indicated that FHA and VA loans were at lower risk for foreclosure, but data from this study indicated these two types of loans had

a significant association with foreclosure. The implication for practice is that lenders seeking to avoid risks should avoid FHA and VA loans.

Implications for Social Change

The implications for positive social change include improved stakeholder knowledge and understanding of variables contributing to foreclosure, which may potentially be useful in developing and implementing less risky lending policies. Improved lending decisions may discourage the origination of unsustainable mortgages and potentially provide lenders with insight into which loan types present the most significant risks based on various factors. Moreover, lenders may experience fewer losses in their mortgage and investment portfolios resulting in increased profitability.

The findings in this study may also prove to be beneficial to future borrowers. Increased knowledge on which loan products present the most risk will aid borrowers in making better informed decisions prior to securing their home with a mortgage. Thus, preventing homeowners from losing their homes in foreclosure and upholding property values in the community.

Recommendations for Action

The results of this research indicate a clear need for lenders and investors to institute policies requiring the disclosure of the types and percentages of loan products included in all portfolios. Findings also indicate a need for increased regulation around the qualifications for FHA and VA loan products to decrease the risks associated with such products. The findings from this study call into question the extension of mortgage loans to individuals who may not be able to meet their obligations to such commitments.

Findings from this investigation may be salient to a variety of stakeholders, including mortgage lenders and borrowers. A practical way to disseminate results is to create a white paper to distribute to interested stakeholders. Additional forms of dissemination may involve presenting the findings at professional and academic conferences or using the findings to create trainings for borrowers and lenders.

Recommendations for Further Research

Recommendations for further research include the area of subprime mortgages, the extension of credit to individuals lacking appropriate credit scores and capital, and the ways portfolio mix can guard against catastrophic losses. Extension of the current research beyond the state of Georgia may help to eliminate the potential for geographic bias in the sample included in the study. Both of these suggestions rely on an assumption that lenders use the same criteria for underwriting and approval processes.

Future researchers may also examine why borrowers of FHA and VA loans are at a greater risk for default than borrowers of conventional loans. Another direction for future investigation would be to examine the effectiveness of different types of loan counseling for reducing default risks among VA and FHA borrowers. Replicating this study in different areas of the country could reveal geographic differences that exist in the default risks associated with different loan types.

Reflections

Reflecting on the Doctorate of Business Administration doctoral study process has led me to an understanding of my preconceived notions and the personal biases brought to the work. I found myself inserting my assumptions about individuals with

questionable credit scores into the work and predetermining their failure before completely reviewing the outcomes. I came to understand that doctoral-level research involves a great deal of bracketing and setting aside of prior knowledge as a way to approach problems with a clear mind and fresh ideas.

Conclusion

The results of this work revealed that, although the need for subprime lending exists in the United States, the oversight and regulation of such mortgages needs to improve. Many Americans dream of home ownership that would be out of reach if they do not have access to loan products that allow them to obtain mortgages without great sums of capital. Those who have experienced credit challenges in the past may also benefit from such loans if they have improved their ability to make loan payments. Although eliminating these products is not a recommended action, the clear correlation between their existence and the increased risk of default sheds light on the importance of increased regulation and disclosure associated with such products.

References

Aßmann, C., Boysen-Hogrefe, J., & Jannsen, N. (2013). Costs of housing crises: International evidence. *Bulletin of Economic Research, 65*(4), 299-313. doi:10.1111/j.1467-8586.2011.00408.x

Agarwal, S., Amromin, G., & Ben-David, I. (2014). Predatory lending and the subprime crisis. *Journal of Financial Economics, 113*(1), 29-52. doi:10.1016/j.jfineco.2014.02.008

Agarwal, S., Amromin, G., Ben-David, I. Chomsisengphet, S., & Evanoff, D. D. (2013). Predatory lending and the subprime crisis. *Journal of Financial Economics, 113*, 29-52. doi:10.1016/j.jfineco.2014.02.008

Agarwal, S., Deng, Y., Luo, C., & Qian, W. (2016). The hidden peril: The role of the condo loan market in the recent financial crisis. *Review of Finance, 20*(2), 467-500. doi:10.1093/rof/rfv015

Alm, J., Buschman, R. D., & Sjoquist, D. L. (2014). Foreclosures and local government revenues from the property tax: The case of Georgia school districts. *Regional Science and Urban Economics, 46*, 1-11. doi:10.1016/j.regsciurbeco.2014.01.007

Anyamele, O. D. (2015). Racial/ethnic differences in household loan delinquency rate. *Review of Black Political Economy, 42*, 415-442. doi:10.1007/s12114-015-9213-6

Avery, R. B., & Brevoort, K. P. (2015). The subprime crisis: Is government housing policy to blame. *Review of Economics and Statistics, 97*, 352-363. doi:10.1162/REST_a_00491

Avramenko, R., & Boyd, R. (2013). Subprime virtues: The moral dimensions of American housing and mortgage policy. *Perspectives on Politics*, *11*, 111-131. doi:10.1017/S1537592712003672

Baumer, E. P., Arnio, A. N., & Wolff, K. T. (2013). Assessing the role of mortgage fraud, confluence, and spillover in the contemporary foreclosure crisis. *Housing Policy Debate*, *23*, 299-327. doi:10.1080/10511482.2012.727843

Beckett, L. (2013). The right to rent post-foreclosure: A legislative proposal to address widespread vacancies in the ongoing foreclosure crisis. *Harvard Journal on Legislation*, *51*, 171-192. Retrieved from http://harvardjol.com

Bhardwaj, G., & Sengupta, R. (2012). Subprime mortgage design. *Journal of Banking & Finance*, *36*, 1503-1519. doi:10.1016/j.jbankfin.2011.12.012

Bhardwaj, G., & Sengupta, R. (2014). Subprime cohorts and loan performance. *Journal of Banking & Finance, 41*, 236-252. doi:10.1016/j.jbankfin.2013.11.037

Bian, X., & Yavas, A. (2013). Prepayment penalty as a screening mechanism for default and prepayment risks. *Real Estate Economics*, *41*, 193-224. doi:10.1111/j.1540-6229.2012.00336.x

Bourassa, S. C., Haurin, D. R., Hendershott, P. H., & Hoesli, M. (2013). Mortgage interest deductions and homeownership: An international survey. *Journal of Real Estate Literature, 21*, 181-203. doi:10.2139/ssrn.2002865

Boysen-Hogrefe, J., Jannsen, N., & Meier, C-P. (2015). A note on banking and housing crises and the strength of recoveries. *Macroeconomic Dynamics, 20*, 1924-1933. doi:10.1017/s1365100515000164

Brakewood, B., & Poldrack, R. (2013). The ethics of secondary data analysis: Considering the application of Belmont principles to the sharing of neuroimaging data. *Neuroimage, 82*, 671-676. doi:10.1016/j.neuroimage.2013.02.040

Bratt, R. G., & Immergluck, D. (2015). The mortgage crisis: Historical context and recent responses. *Journal of Urban Affairs, 37*, 32-37. doi:10.1111/juaf.12158

Brescia, R. H. (2014). The Community Reinvestment Act: Guilty, but not as charged. *St. John's Law Review, 88*, 1-38. doi:10.2139/ssrn.2227520

Bubb, R., & Krishnamurthy, P. (2015). Regulating against bubbles: How mortgage regulation can keep main street and Wall Street safe-from themselves. *University of Pennsylvania Law Review, 163*, 1539-1630. Retrieved from https://pennlawreview.com

Burnside, C., Eichenbaum, M., & Rebelo, S. (2016). Understanding booms and busts in housing markets. *Journal of Political Economy, 124*(4), 1088–1147. doi:10.1086/686732

Casu, B., Clare, A., Sarkisyan, A., & Thomas, S. (2013). Securitization and bank performance. *Journal of Money, Credit and Banking*, *45*, 1617-1658. doi:10.1111/jmcb.12064

Caverzasi, E. (2014). Minsky and the subprime mortgage crisis: The financial instability hypothesis in the era of financialization (Working paper No. 796). *Levy Economics Institute*. doi:10.2139/ssrn.2430259

Chan, S., Sharygin, C., Been, V., & Haughwout, A. (2013). Pathways after default: What happens to distressed mortgage borrowers and their homes? *Journal of Real Estate Finance and Economics*, *48*, 342-379. doi:10.1007/s11146-012-9400-1

Charles, S. (2015). Is Minsky's financial instability hypothesis valid? *Cambridge Journal of Economics, 40*, 427-436. doi:10.1093/cje/bev022

Chiang, Y.-M., & Sa-Aadu, J. (2013). Optimal mortgage contract choice decision in the presence of pay option adjustable rate mortgage and the balloon mortgage. *Journal of Real Estate Finance and Economics*, *48*, 709-753. doi:10.1007/s11146-012-9397-5

Choplin, J. M., & Stark, D. P. (2013). Doomed to fail: A psychological analysis of mortgage disclosures and policy implications. *Banking & Financial Services Policy Report, 32*(10), 11. Retrieved from http://wklawbusiness.com

Clark, W. A. V. (2011). Prices, expectations and the changing housing market: A commentary and discussion. *Housing, Theory and Society*, *28*, 262-275. doi:10.1080/14036096.2011.599174

Cocco, J. F. (2013). Evidence on the benefits of alternative mortgage products. *Journal of Finance*, *68*, 1663-1690. doi:10.1111/jofi.12049

Courchane, M. J., Darolia, R., & Zorn, P. M. (2014). The downs and ups of FHA lending: The government mortgage roller coaster ride. *Journal of Housing Economics*, *24*, 39-56. doi:10.1016/j.jhe.2014.01.002

Courchane, M. J., Kiefer, L. C., & Zorn, P. M. (2015). A tale of two tensions: Balancing access to credit and credit risk in mortgage underwriting. *Real Estate Economics*, *43,* 993-1034. doi:10.1111/1540-6229.12105

Cox, R., Brounen, D., & Neuteboom, P. (2014). Financial literacy, risk aversion and choice of mortgage type by households. *Journal of Real Estate Finance and Economics*, *50*, 74-112. doi:10.1007/s11146-013-9453-9

Curtis, Q. (2013). State foreclosure laws and mortgage origination in the subprime. *Journal of Real Estate Finance and Economics, 49*, 303-328. doi:10.1007/s11146-013-9437-9

Davies, M., & Hughes, N. (2014). *Doing a successful research project: Using qualitative or quantitative Methods* (2nd ed.). Basingstoke, United Kingdom: Palgrave Macmillan.

Demiroglu, C., Dudley, E., & James, C. (2014). State foreclosure laws and the incidence of mortgage default. *Journal of Law and Economics*, *57*, 225-280. doi:10.1086/674868

Ding, L., Quercia, R. G., Reid, C. K., & White, A. M. (2012). The impact of federal preemption of state antipredatory lending laws on the foreclosure crisis. *Journal of Policy Analysis and Management*, *31*, 367-387. doi:10.1002/pam.21604

Donadelli, M. (2015). Uncertainty shocks and policymakers' behavior: Evidence from the subprime crisis era. *Journal of Economic Studies, 42*, 578-607. doi:10.1108/jes-01-2014-0016

Dong, H., & Hansz, J. A. (2016). The geography of the recent housing crisis: The role of urban reform. *Housing Policy Debate, 26*, 150-171. doi:10.1080/10511482.2015.1038575

Dymski, G., Hernandez, J., & Mohanty, L. (2013). Race, gender, power, and the US subprime mortgage and foreclosure crisis: A meso analysis. *Feminist Economics, 19*(3), 124-151. doi:10.1080/13545701.2013.791401

Emerson, R. W. (2015). Convenience sampling, random sampling, and snowball sampling: How does sampling affect the validity of research? *Journal of Visual Impairment & Blindness, 109*(2), 164-168. Retrieved from http://afb.org

Epstein, R. A. (2013). The economic consequences of the Obama reelection: How stagnation has vanquished growth. *Southern Economic Journal, 80*, 282-298. doi:10.4284/0038-4038-2013.191

Faul, F., Erdfelder, E., Buchner, A., & Lang, A. G. (2009). Statistical power analyses using G*Power 3.1: Tests for correlation and regression analyses. *Behavior Research Methods*, *41*, 1149-1160. doi:10.3758/brm.41.4.1149

Fecher, B., Friesike, S., & Hebing, M. (2015). What drives academic data sharing? *PloS ONE*, *10*(2). doi:10.1371/journal.pone.0118053

Field, A. (2013). *Discovering statistics using SPSS* (4th ed.). Thousand Oaks, CA: Sage Publications.

Foote, C. L., & Willen, P. S. (2016). The subprime mortgage crisis. In G. Jones (Ed.), *Banking Crises* (pp. 326-336). doi:10.1057/9781137553799_32

Fox, J. (2015). The future of foreclosure law in the wake of the great housing crisis of 2007-2014. *Washburn Law Journal, 54*, 489-526. Retrieved from http://scholarship.law.nd.edu

Gangel, M., Seiler, M. J., & Collins, A. (2013). Exploring the foreclosure contagion effect using agent-based modeling. *Journal of Real Estate Finance and Economics, 4*(2), 339-354. doi:10.1007/s11146-011-9324-1

Geanokoplos, J. (2014). Leverage, default, and forgiveness: Lesson from the American and European crises. *Journal of Macroeconomics, 39*, 313-333. doi:10.1016/j.jmacro.2014.01.001

Georgia Watch. (2010). *Georgia foreclosure crisis part one: The rippling effects of reckless lending.* Retrieved from http://georgiawatch.org

Goodman, L. S., Zhu, J., & George, T. (2014). Where have all the loans gone? The impact of credit availability on mortgage volume. *Journal of Structured Finance, 20*(2), 45-53. doi:10.3905/jsf.2014.20.2.045

Guesmi, K., Kaabia, O., & Kazi, I. (2013). Does shift contagion exist between OECD stock markets during the financial crisis? *Journal of Applied Business Research, 29*(2), 469-84. doi:10.19030/jabr.v29i2.7651

Gyourko, J., & Tracy, J. (2014). Reconciling theory and empirics on the role of unemployment in mortgage default. *Journal of Urban Economics*, *80*, 87-96. doi:10.1016/j.jue.2013.10.005

Hall, M., Crowder, K., & Spring, A. (2015). Variations in housing foreclosures by race and place, 2005-2012. *Annals of the American Academy of Political and Social Science, 660*, 217-237. doi:10.1177/0002716215576907

Hausman, A., & Johnson, W. J. (2014). Timeline of a financial crisis: Introduction to the special issue. *Journal of Business Research, 67*, 2667-2670. doi:10.1016/j.jbusres.2013.03.014

Hendrickson, J., & Nichols, M. (2011). How do predatory lending laws impact bank performance. *Academy of Banking Studies Journal, 10*, 1-23. Retrieved from http://ajcatalog.com

Hoare, Z., & Hoe, J. (2013). Understanding quantitative research: Part 2. *Nursing Standard*, *27*(18), 48-55. doi:10.7748/ns2013.01.27.18.48.c9488

Hoekstra, R., Morey, R. D., Rouder, J. N., & Wagenmakers, E. J. (2014). Robust misinterpretation of confidence intervals. *Psychonomic Bulletin & Review*, *21*(5), 1157-1164. doi:10.3758/s13423-013-0572-3

Horton, B. (2013). Toward a more perfect substitute: How pressure on the issuers of private-label mortgage-backed securities can improve the accuracy of ratings**.** *Boston University Law Review, 93*(6), 1905-1970. Retrieved from http://www.bu.edu/bulawreview/

Houle, J. N. (2014). Mental health in the foreclosure crisis. *Social Science & Medicine, 118*, 1-8. doi:10.1016/j.socscimed.2014.07.054

Howell, D. C. (2013). *Statistical methods for psychology* (8th ed.). Belmont, CA: Wadsworth Cengage Learning.

Huang, M.-C., & Yeh, L.-Y. (2015). Should the Fed take extra action for the recent housing bubble? Evidence from asymmetric transitory shocks. *Journal of Economics and Finance, 39*, 762-781. doi:10.1007/s12197-014-9281-7

Hyra, D. S., Squires, G. D., Renner, R. N., & Kirk, D. S. (2013). Metropolitan segregation and the subprime lending crisis. *Housing Policy Debate*, *23*(1), 177-198. doi:10.1080/10511482.2012.697912

IBM Corp. (2016). IBM SPSS statistics for Windows, version 24.0. Armonk, NY: IBM Corp.

Immergluck, D. (2011). From minor to major player: The geography of FHA lending during the U.S. mortgage crisis. *Journal of Urban Affairs*, *33*, 1-20. doi:10.1111/j.1467-9906.2010.00539.x

Iqbal, A., & Vitner, M. (2013). Did monetary policy fuel the housing bubble? *Journal of Private Enterprise, 29*, 1-24. Retrieved from http://aabri.com

Jefferies, W. (2015). On the alleged stagnation of capitalism. *Review of Radical Political Economics, 47*, 588-607. doi:10.1177/0486613415574265

Jefferson, A. (2013). Narratives of moral order in Michigan's foreclosure crisis. *City and Society*, *25*, 92-112. doi:10.1111/ciso.12006

Johnson, K., & Li, G. (2014). Are adjustable-rate mortgage borrowers borrowing constrained? *Real Estate Economics, 42*(2), 457-471. doi:10.1111/1540-6229.12033

Kaabia, O., & Abid, I. (2013). Detecting contagion effects during the subprime crisis using different VAR size models: Comparison between OLS and Bayesian

shrinkage. *Journal of Applied Business Research, 29*, 717-736. doi:10.19030/jabr.v29i3.7776

Keaney, M. (2014). Financialization and social structure of accumulation theory. *World Review of Political Economy*, *5*(1), 45. doi:10.13169/worlrevipoliecon.5.1.0045

Keene, D. E., Lynch, J. F., & Castro, A. (2014). Fragile health and fragile wealth: Mortgage strain among African American homeowners. *Social Science & Medicine*, *118*, 119-126. doi:10.1016/j.socscimed.2014.07.063

Khan, S. (2014). Qualitative research method: Grounded theory. *International Journal of Business and Management, 9*(11), 224-230. doi:10.5539/ijbm.v9n11p224

Kim, T. K., Wilmarth, M. J., & Choi, S. (2016). Credit use of U.S. households after the Great Recession: The role of credit constraint. *Family and Consumer Sciences Research Journal, 44*, 280-294. doi:10.1111/fcsr.12143

Kotz, D.M. (2013). The current economic crisis in the United States: A crisis of over-investment. *Review of Radical Political Economics, 45*(3), 284-294. doi:10.1177/0486613413487160

Koutsobinas, T. (2010). A Keynes moment in the global financial collapse. *Real-World Economics Review, 52*, 82-99. Retrieved from http://paecon.net

Kraemer, H. C., & Blasey, C. (2015). *How many subjects?: Statistical power analysis in research* (2nd ed.). Sage Publications.

Krainer, J., & Laderman, E. (2013). Mortgage loan securitization and relative loan performance. *Journal of Financial Services Research*, *45*, 39-66. doi:10.1007/s10693-013-0161-7

Krupa, O. (2014). Housing crisis and vertical equity of the property tax in a market value based assessment system. *Public Finance Review, 42*, 555-581. doi:10.1177/1091142113496132

Lavoie, M. (2016) Understanding the global financial crisis: Contributions of post-Keynesian economics, *Studies in Political Economy, 97*(1), 58-75. doi:10.1080/07078552.2016.1174463

Lersch, K., Sellers, C., & Cromwell, P. (2015). Residential foreclosure rates and calls for service for domestic disputes: An exploratory analysis. *American Journal of Criminal Justice, 40*, 579-592. doi:10.1007/s12103-014-9275-1

Lin, C. C., Prather, L. J., Chu, T.-H., & Tsay, J.-T. (2013). Differential default risk among traditional and non-traditional mortgage products and capital adequacy standards. *International Review of Financial Analysis*, *27*, 115-122. doi:10.1016/j.irfa.2012.11.005

Lippit, V. D. (2014). The neoliberal era and the financial crisis in the light of SSA theory. *Review of Radical Political Economics, 46*(2), 141–161. doi:10.1177/0486613413497908

LoPucki, L. (2014). House swaps: A strategic bankruptcy solution to the foreclosure crisis. *Michigan Law Review*, *112*, 689-737. Retrieved from http://michiganlawreview.org

Lu, W., & Whidbee, D. A. (2013). Bank structure and failure during the financial crisis. *Journal of Financial Economic Policy, 5*, 281-299. doi:10.1108/jfep-02-2013-0006

Madhavi, C. (2014). Race in the mortgage market: An empirical investigation using HDMA data. *Race, Gender, & Class, 21*, 48-63. Retrieved from http://rgc.uno.edu

Makarov, I., & Plantin, G. (2013). Equilibrium subprime lending. *Journal of Finance, 68*, 849-879. doi:10.1111/jofi.12022

Mayer, C., Pence, K., & Sherlund, S. (2013). The rise in mortgage defaults. *Journal of Economic Perspectives*, *23*, 27-50. doi:10.1257/jep.23.1.27

Mayer, D., Cava, A., & Baird, C. (2014). Crime and punishment (or the lack thereof) for financial fraud in the subprime mortgage meltdown: Reasons and remedies for legal and ethical lapses. *American Business Law Journal*, *51*, 515-597. doi:10.1111/ablj.12033

Mayhew, A., & Mayhew, A. (2014). The backward art of thinking about consumer spending. *Journal of Economic Issues*, *48*, 949-959. doi:10.2753/JEI0021-3624480404

McCoy, P. (2013). Barriers to foreclosure prevention during the financial crisis. *Arizona Law Review*, *55*, 723-773. Retrieved from http://arizonalawreview.org/

Menard, S. (2009). *Logistic regression: From introductory to advanced concepts and applications.* Thousand Oaks, CA: Sage Publications.

Minsky, H. P. (1986). *Stabilizing an unstable economy*. New Haven, CT: Yale University Press.

Minsky, H. P. (1992). The financial instability hypothesis. *The Levy Economics Institute*. doi:10.2139/ssrn.161024

Minsky, H. P. (2015). *Can "it" happen again? Essays on instability and finance.* New York, NY: Routledge.

Moulton, S. (2012). The authority to do good: Publicly responsible behavior among private mortgage lenders. *Public Administration Review, 72*, 430-439. doi:10.111/j.1540-6210.2011.02546.x

Moulton, S. (2014). Did affordable housing mandates cause the subprime mortgage crisis? *Journal of Housing Economics*, *24*, 21-38. doi:10.1016/j.jhe.2013.11.001

Mukerji, P., Saeed, K., & Tan, N. (2015). An examination of the influence of household financial decision making on the U.S. housing market crisis. *Systems, 3*, 378-398. doi:10.3390/systems3040378

National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research. (1978). The Belmont report: Ethical principles and guidelines for the protection of human subjects of research. Washington, DC: U.S. Department of Health and Human Services.

Nelson, S. C., & Katzenstein, P. J. (2014). Uncertainty, risk, and the financial crisis of 2008. *International Organization, 68*, 361-392. doi:10.1017/S0020818313000416

Neuenschwander, C., & Proffitt, D. (2014). Predatory lending characteristics and mortgage default. *Journal of Finance and Accountancy, 16*, 1. Retrieved from http://aabri.com

Nkwake, A. M., & Morrow, N. (2016). Clarifying concepts and categories of assumptions for use in evaluation. *Evaluation and Program Planning, 59*, 97-101. doi:10.1016/j.evalprogplan.2016.05.014

Pajarskas, V., & Jočienė, A. (2015). Subprime mortgage crisis in the United States in 2007-2008: Causes and consequences (Part II). *Ekonomika, 94*, 7-41. doi:10.15388/Ekon.2015.1.5317

Palinkas, L. A., Horwitz, S. M., Green, C. A., Wisdom, J. P., Duan, N., & Hoagwood, K. (2015). Purposeful sampling for qualitative data collection and analysis in mixed method implementation research. *Administration and Policy in Mental Health, 42*(5), 533-544. doi:10.1007/s10488-013-0528-y

Pallant, J. (2013). *SPSS Survival Manual* (5th ed.). New York, NY: McGraw-Hill.

Palley, T. I. (2010). The limits of Minsky's financial instability hypothesis as an explanation of the crisis. *Monthly Review, 61*(11), 28-43. doi:10.14452/mr-061-11-2010-04_2

Peicuti, C. (2013). Securitization and the subprime mortgage crisis. *Journal of Post Keynesian Economics*, *35*, 443-456. doi:10.2753/PKE0160-3477350306

Peicuti, C. (2014). The Great Depression and the Great Recession: A comparative analysis of their analogies. *European Journal of Comparative Economics, 11*, 55-78. Retrieved from http://eaces.liuc.it/

Prather, L., Lin, C., & Chu, T. (2013). What homebuyers need to know about the differential risk of mortgages? *Financial Services Review*, *22*, 331-347. Retrieved from http://academyfinancial.org

Prohaska, A., & Lichtenstein, B. (2014). Losing a home to mortgage foreclosure: Temporary setback or chronic stressor? *Social Justice*, *40*(3), 65-80. Retrieved from http://socialjusticejournal.org

Quercia, R. G., & Park, K. A. (2013). The public purpose of FHA. *Cityscape, 15*, 277. Retrieved from https://huduser.gov

Quercia, R. G., Pennington-Cross, A., & Yue Tian, C. (2012). Mortgage default and prepayment risks among moderate and low-income households. *Real Estate Economics*, *40*, S159-S198. doi:10.1111/j.1540-6229.2012.00350.x

Ramcharan, R., Verani, S., & Van den Heuvel, S. J. (2016). From Wall Street to Main Street: The impact of the financial crisis on consumer credit supply. *Journal of Finance, 71*(3), 1323–1356. doi:10.1111/jofi.12209

Rana, G. A., & Shea, P. (2015). Estimating the causal relationship between foreclosures and unemployment during the great recession. *Economics Letters*, *134*, 90-93. doi:10.1016/j.econlet.2015.06.019

Raymond, E. (2016). *Negative equity in the sixth Federal Reserve District* (Federal Reserve Bank of Atlanta Discussion Paper 01-16). Retrieved from https://www.frbatlanta.org

Razaki, K., Koprowski, W., & Manizha, R. (2013). The laxity of OCC in enforcing regulations to prevent the subprime crisis. *Journal of Business & Accounting, 6*, 27. Retrieved from http://asbbs.org

Russell, B. D., Moulton, S., & Greenbaum, R. T. (2014). Take-up of mortgage assistance for distressed homeowners: The role of geographic accessibility. *Journal of Housing Economics*, *24*, 57-74. doi:10.1016/j.jhe.2014.02.002

Salvador, J. T. (2016). Exploring quantitative and qualitative methodologies: A guide to novice nursing researchers. *European Scientific Journal, 12*(18), 107. doi:10.19044/esj.2016.v12n18pl07

Schwartz, A. (2012). US housing policy in the age of Obama: From crisis to stasis. *International Journal of Housing Policy*, *12*, 227-240. doi:10.1080/14616718.2012.681549

Shi, X., & Riley, S. F. (2014). Mortgage choice, house price externalities, and the default rate. *Journal of Housing Economics*, *26*, 139-150. doi:10.1016/j.jhe.2014.06.001

Smith, B. C. (2012). Lending through the cycle: The Federal Housing Administration's evolving risk in the primary market. *Atlantic Economic Journal*, *40*, 253-271. doi:10.1007/s11293-012-9327-1

Spahr, R. W., & Sunderman, M. A. (2014). The U.S. housing finance debacle, measures to assure its non-recurrence, and reform of the housing GSEs. *Journal of Real Estate Research, 36*, 59-86. Retrieved from http://pages.jh.edu/jrer/

Spencer, R. W., & Huston, J. H. (2013). Monetary policy effectiveness and the housing market. *Studies in Economics and Finance*, *30*, 226-243. doi:10.1108/SEF-Feb-2012-0027

Stevens, J. P. (2009). *Applied multivariate statistics for the social sciences* (5th ed.). Mahwah, NJ: Routledge Academic.

Stowell, N., Barker-Cagwin, K., & Fellows, J. (2012). Mortgage fraud: Current trends and issues. *Real Estate Issues*, *37*(2 & 3), 42-51. Retrieved from http://cre.org

Tabachnick, B. G., & Fidell, L. S. (2012). *Using multivariate statistics* (6th ed.). Boston, MA: Pearson.

Tan, J. P., & Cheong, S. A. (2014). Critical slowing down associated with regime shifts in the U.S. housing market. *European Physical Journal, 87*, 38. doi:10.1140/epjb/e2014-41038-1

Tatom, J. A. (2013). Crises and the Great Recession. *Business Economics, 48*(3), 175-181. doi:10.1057/be.2013.20

Thakor, A. V. (2015). The financial crisis of 2007-2009: Why did it happen and what did we learn? *Review of Corporate Finance Studies*, *4*, 155-205. doi:10.1093/rcfs/cfv001

Uprichard, E. (2013). Sampling: Bridging probability and non-probability designs. *International Journal of Social Research Methodology*, 16(1), 1-11. doi:10.1080/13645579.2011.633391

U.S. Census Bureau. (2012). *Table 1194. Mortgage Originations and Delinquency and Foreclosure Rates: 1990 to 2010*. Retrieved from https://www.census.gov/history/pdf/2009foreclosures.pdf

U.S. Census Bureau. (2017). *Monthly New Residential Sales, June 2017.* Retrieved from https://www.census.gov/construction/nrs/pdf/newressales.pdf

White, L. H. (2015). Skepticism about Minsky's financial instability hypothesis: A comment on Flanders. *Economic Journal Watch, 12*, 106-113. Retrieved from http://econjwatch.org

Yilmaz, K. (2013). Comparison of quantitative and qualitative research traditions: Epistemological, theoretical, and methodological differences. *European Journal of Education, 48*, 311-325. doi:10.1111/ejed.12014

Zacks, E. A., & Zacks, D. A. (2015). A standing question: Mortgages, assignment, and foreclosure. *Journal of Corporation Law, 40*, 705-737. Retrieved from https://jcl.law.uiowa.edu

Zhu, J., Janowiak, J., Ji, L., Karamon, K., & McManus, D. (2015). The effect of mortgage payment reduction on Default: Evidence from the home affordable refinance program. *Real Estate Economics*, *43*(4), 1035–1054. doi:10.1111/1540-6229.12104

Zhu, S., & Pace, K. (2015). The influence of delays on borrower's default behavior. *Journal of Money, Credit, and Banking, 47*, 1205-1222. doi:10.1111/jmcb.12242

Zillow. (2016). Zillow data. Retrieved from http://www.zillow.com/research/data/

Appendix A: Archival Data License Agreement

CORELOGIC UNIVERSITY DATA PORTAL
LICENSE AGREEMENT

This CoreLogic University Data Portal License Agreement ("Agreement") governs the relationship between CoreLogic Solutions, LLC ("CoreLogic") and you ("Licensee") and your access to the Services provided by CoreLogic. This Agreement is in addition to the separate Terms and Conditions that govern your relationship with IndiSoft, LLC. This Agreement shall be effective as of the date of Licensee's signature ("Effective Date").

1. **Definitions.**

   1.1. "**Academic Research Purpose**" means the academic and policy related research purpose for which the Services will be used, as disclosed in the Application.

   1.2. "**Application**" means, individually or collectively, the online registration and/or application forms submitted by Licensee in connection with Licensee's request to download and use the Services.

   1.3. "**Licensee**" means either (i) the University (the institution), or (ii) an individual faculty member, researcher, or student affiliated with the University, as applicable and as identified in the signature lines below.

   1.4. "**Permitted Users**" means the faculty member(s), researcher(s), and/or student(s) who are engaged in the Academic Research Purpose.

   1.5. "**Services**" means the CoreLogic data downloaded by Licensee and/or accessed by Permitted Users.

   1.6. "**University**" means the institution of higher learning identified in the Application with which Permitted Users are affiliated.

2. **License Grant.** Subject to the terms and conditions of this Agreement, CoreLogic grants to Licensee and Permitted Users a non-exclusive, non-transferable, limited license to use the Services solely for the Permitted Applications set forth in Section 4, and for no other purpose.

3. **Taxes.** The fees for the Services are exclusive of sales, use, excise, ad valorem, personal property, and other taxes. Taxes, if applicable, shall be the responsibility of Licensee and shall be added to the fees payable for the Services unless Licensee provides a valid tax exemption certificate in a form authorized by the appropriate taxing authority.

4. **Permitted Applications.** Licensee represents and warrants to CoreLogic that the Academic Research Purpose is truthfully and accurately disclosed in the Application. Only Permitted Users may access and use the Services, and then solely in connection with the Academic Research Purpose and for no other purpose. Permitted Users may comingle, process, and combine the Services with other data or other information only to the extent that such commingling, processing or combining is done in connection with the Academic Research Purpose. Licensee or Permitted Users may publish the results of the Academic Research Purpose derived from the Services ("Summary Materials"), provided that the Summary Materials may include only de minimis portions of the Services. Licensee or Permitted Users may cite CoreLogic as a data source as follows: Source: CoreLogic©. Neither Licensee nor Permitted Users shall resell or relicense the Services in whole or in part. Except for the inclusion of de minimis portions of the Services in Summary Materials, neither Licensee nor Permitted Users shall redistribute the Services in whole or in part.

5. **Storage; Security.** The Services shall be stored only on secure computer equipment owned and controlled by Licensee or the University. Licensee shall protect the security of the Services to prevent unauthorized use or disclosure with the same degree of care (provided that such is at least a reasonable degree of care) that Licensee uses to protect the security of its own confidential data.

6. **Term.** This term of this Agreement commences on the Effective Date and shall continue for a period of 36 months unless otherwise specified by CoreLogic in writing. Upon the expiration or termination of this Agreement, all license rights granted by CoreLogic pursuant to the Agreement or shall terminate.

7. **Destruction of Materials**. Within 15 days of the expiration or termination of this Agreement, Licensee shall destroy the Services (including all copies of the same). Upon CoreLogic's request, Licensee shall certify in writing that the Services and all copies thereof have been destroyed. If the Services are not destroyed in accordance with the foregoing, Licensee shall pay CoreLogic the fees ordinarily and reasonably charged by CoreLogic for the Services until such time the Services are destroyed. Notwithstanding the foregoing, Licensee may retain, for a period not to exceed five years, a copy of the Services in an archival database solely to support the results of the academic research derived from the Services that were published prior to the expiration or termination of this Agreement or a SOW, and for no other use or purpose (including, but not limited to, any new academic research). For the avoidance of doubt, the Summary Materials referenced in Section 4 shall not be subject to the requirements of this Section 7.

8. **Compliance Audits**. Upon 5 days' prior written notice, CoreLogic may audit Licensee for purposes of ensuring Licensee's compliance with the terms and conditions of this Agreement. CoreLogic may choose the auditor in its sole discretion. Any such audit shall take place during regular business hours, shall not be unreasonably disruptive, and shall be conducted under Licensee's supervision. If the audit indicates there is a breach in Licensee's compliance with this Agreement: (i) CoreLogic may immediately terminate this Agreement and pursue its legal remedies; and (ii) Licensee shall pay for the cost of such audit. If Licensee does not cooperate with CoreLogic's request to audit for compliance, Licensee shall be deemed to be in breach of this Agreement, for which CoreLogic may immediately terminate this Agreement.

9. **Ownership.** CoreLogic, its affiliates or third party licensors own and hold all right, title and interest in and to the Services, including without limitation, all underlying data compilations and information, all materials related to the Services and all intellectual property derived from the Services, including without limitation, all patents, trademarks, copyrights and trade secrets derived from the Services, notwithstanding that portions of the Services may be derived in whole or in part from publicly available sources. Licensee shall be the sole owner of the Summary Materials referenced in Section 4 and shall have a perpetual license to the de minimis portions of the Services embedded therein.

10. **Trademarks**. "CoreLogic," the CoreLogic logo and all CoreLogic product names are trademarks or service marks of CoreLogic or its affiliates (collectively, the "Marks"). No right or license to use the Marks is granted under this Agreement, except that (i) Permitted Users shall have the limited right to use the Marks solely as they appear in the Services, and (ii) Permitted Users may cite CoreLogic as a data source as provided in Section 4. Permitted Users shall not use the Marks in any advertising or promotional material unless authorized in writing by CoreLogic. Permitted Users shall not remove, alter or obscure any Marks or proprietary notices contained in the Services or other materials provided by CoreLogic.

11. **Disclaimers**. THE SERVICES ARE PROVIDED "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION ANY WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, OR WARRANTIES BASED ON COURSE OF DEALING OR USAGE IN TRADE. THE AVAILABILITY, QUALITY AND SCOPE OF DATA VARY SUBSTANTIALLY IN TIME AND GEOGRAPHY. CORELOGIC DOES NOT REPRESENT OR WARRANT THAT THE SERVICES ARE COMPLETE OR FREE FROM ERROR. CORELOGIC DOES NOT ASSUME, AND EXPRESSLY DISCLAIMS, ANY LIABILITY TO ANY PERSON OR ENTITY FOR LOSS OR DAMAGE CAUSED BY ERRORS OR OMISSIONS IN THE SERVICES, WHETHER SUCH ERRORS OR OMISSIONS RESULT FROM NEGLIGENCE, ACCIDENT, OR OTHER CAUSE.

12. **Limitation of Liability**. CORELOGIC'S TOTAL LIABILITY AND LICENSEE'S EXCLUSIVE REMEDY UNDER OR RELATED TO THIS AGREEMENT IS LIMITED TO DIRECT MONEY DAMAGES NOT EXCEEDING THE AMOUNT PAID BY LICENSEE TO CORELOGIC DURING THE 3 MONTHS PRECEDING THE EVENT OR CIRCUMSTANCE GIVING RISE TO SUCH CLAIM. THIS LIMIT IS CUMULATIVE AND ALL PAYMENTS UNDER THIS AGREEMENT ARE AGGREGATED TO CALCULATE SATISFACTION OF THE LIMIT. THE EXISTENCE OF MULTIPLE CLAIMS DOES NOT ENLARGE THE LIMIT. TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW, IN NO EVENT SHALL CORELOGIC, OR ANY PROVIDER OF INFORMATION USED BY CORELOGIC IN PREPARING OR PROVIDING THE SERVICES, BE LIABLE FOR ANY INCIDENTAL, CONSEQUENTIAL, INDIRECT, SPECIAL, PUNITIVE OR EXEMPLARY DAMAGES, LOST PROFITS

OR REVENUE, OR LOST OR DAMAGED DATA, WHETHER ARISING IN CONTRACT, TORT (INCLUDING NEGLIGENCE) OR OTHERWISE, EVEN IF CORELOGIC IS AWARE OF THE POSSIBILITY OF SUCH LOSS OR DAMAGES.

13. **Indemnification**. Licensee shall, to the extent permitted by law, indemnify, defend and hold CoreLogic and its affiliates harmless from and against all claims, losses, liabilities, damages, costs and expenses (including, without limitation, reasonable attorneys' fees) arising from a claim, suit or proceeding brought against CoreLogic by a third party arising out of or related to the use of the Services by Permitted Users or any Permitted User's breach of this Agreement.

14. **Injunction**. Any violation of the license restrictions set forth in this Agreement shall be deemed a material breach of this Agreement, for which CoreLogic may not have adequate remedy in money or damages. CoreLogic shall be entitled to injunctive relief, in addition to (and not in lieu of) such further relief as may be granted by a court of competent jurisdiction, without the requirement of posting a bond or providing an undertaking.

15. **Relationship of the Parties**. The parties shall at all times perform their respective obligations pursuant to this Agreement as independent contractors. The parties acknowledge that this is a business relationship based on the express provisions of this Agreement and no partnership, joint venture, agency, fiduciary or employment relationship is intended or created by this Agreement. Neither party is the legal representative or agent of, nor has the power or right to obligate, direct or supervise the daily affairs of the other party, and neither party shall act or represent or hold itself out as such.

16. **Notices**. Any notice or other communication required or permitted under this Agreement shall be deemed given: (i) when delivered by hand; (ii) 1 business day after being sent by a commercially recognized overnight service; or (iii) 3 business days after being sent by registered or certified mail, return receipt requested, postage prepaid. Notices to CoreLogic shall be sent to the attention of the Legal Department at 40 Pacifica, Suite 900, Irvine, California 92618. Notices to Licensee shall be sent to the address entered by Licensee in the Application.

17. **Assignment**. Licensee shall not assign or transfer this Agreement or any rights or obligations under this Agreement without the express prior written consent of CoreLogic. Any unauthorized assignment or transfer shall be void and constitutes ground for immediate termination of this Agreement by CoreLogic. This Agreement binds and inures to the benefit of the parties and their respective permitted successors and permitted assigns.

18. **Governing Law**.

    18.1. Government Agency. If Licensee is a government agency in the United States, the following provisions shall apply: This Agreement shall be governed by and construed in accordance with the laws of the state in which Licensee is located, without giving effect to its principles of conflicts of law. Any litigation arising out of this Agreement shall be brought by either party in a court of competent jurisdiction in the state in which Licensee is located. Each party hereby expressly and irrevocably waives the right to a jury trial. For the avoidance of doubt, if Licensee is a government agency in the United States, the provisions of Section 18.2 shall not apply.

    18.2. Non-Government Agency. If Licensee is not a government agency in the United States, the following provisions shall apply: This Agreement shall be governed by and construed in accordance with the laws of the State of California, without giving effect to its principles of conflicts of law. Any litigation arising out of this Agreement shall be brought by either party in a court of competent jurisdiction located in Orange County, California, and each party hereby waives any defenses it may have before such courts based on a lack of personal jurisdiction or inconvenient forum. Each party hereby expressly and irrevocably waives the right to a jury trial. The prevailing party shall be awarded its reasonable attorneys' fees and costs in any proceeding arising out of or related to this Agreement. For the avoidance of doubt, if Licensee is not a government agency in the United States, the provisions of Section 18.1 shall not apply.

19. **Miscellaneous**. If any provision, or part thereof, of this Agreement becomes or is declared invalid, illegal or unenforceable in any respect under any law, such provision, or part thereof, shall be null and void, and deemed deleted from this Agreement. The validity, legality and enforceability of the remaining provisions of this Agreement shall not in any way be affected or impaired. Any waiver under this Agreement is only valid to the extent expressly set forth in writing, and shall not constitute a subsequent or continuing waiver. Neither party shall be liable for any delay or failure in performance due to events outside the defaulting party's reasonable control. Sections 3 (Taxes), 7 (Destruction of Materials), 8 (Compliance Audits), 12 (Limitation of Liability), 13 (Indemnification), 14 (Injunction), and 18 (Governing Law) shall survive the expiration or termination of this Agreement.

If Licensee is the University (the institution) rather than an individual, the signatory whose signature appears below represents and warrants to CoreLogic that he or she has the authority to sign on behalf of the University, and is duly authorized to execute this Agreement and bind the University.

Name of Licensee: Vonetta C. Allen

By: Vonetta C. Allen
(Electronic Signature)

Printed Name: Vonetta C. Allen

Title: Walden University Student

Date: 9 June 2017